DOCUMENT RESUME

ED 138 738 CE 010 817

AUTHOR Nolfi, George J.
TITLE Adult Open Learning: Federal Investment in Research and Experimentation. Final Report.
INSTITUTION University Consultants, Inc., Cambridge, Mass.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Jul 75
CONTRACT NIE-C-74-0103
NOTE 238p.

EDRS PRICE MF-$0.83 HC-$12.71 Plus Postage.
DESCRIPTORS *Adult Education; Disadvantaged Groups; Educational Finance; Educational Opportunities; *Educational Research; Educational Strategies; *Federal Aid; Individual Needs; *Investment; *Open Education; Performance Based Education; Post Secondary Education; *Research Needs; Social Influences
IDENTIFIERS United States

ABSTRACT

This report covers a three-part project ("white paper", working papers, and discussion seminars) in adult open learning designed to provide the basis for an expansive discussion of the need for research in open learning. Following an executive summary, contents are presented in three parts. Part I consists of an introduction and overview. Part II, Facts, Definitions, and an Analytical Perspective, provides a brief background discussion of the phenomenon of adult open learning as well as an analytical perspective which reflects the social role of open learning and current social policy needs. Part II serves as a point of departure for the discussion of investment priorities which appear in Part III, titled Priorities for Investment in Research and Experimentation. The project's seven working papers, included mostly in part III of the report are titled "Introduction and Overview of Overall Approach and Intent," Expanded Postsecondary Open Learning Opportunities through the Utilization of Resources and Initiatives in the Several Sectors of the Existing Open Learning Universe," Financing Open Learning: Varied Needs and Approaches," "Matching the Needs of Specific Clienteles with the Characteristics of Specific Teaching-Learning Modes and Delivery Systems," "Open Learning and the World of Work," "Competence- and Performance-Based Assessment and Credentialing of Learning Outcomes," "Strategies for Fostering Open Learning." A reference bibliography, keyed to the working paper topics, is appended. (SH)

Documents acquired by ERIC include many informal unpublished materials not available from other sources. ERIC makes every effort to obtain the best copy available. Nevertheless, items of marginal reproducibility are often encountered and this affects the quality of the microfiche and hardcopy reproductions ERIC makes available via the ERIC Document Reproduction Service (EDRS). EDRS is not responsible for the quality of the original document. Reproductions supplied by EDRS are the best that can be made from the original.

UNIVERSITY CONSULTANTS, INC
CORPORATE OFFICES 45 HANCOCK STREET, CAMBRIDGE, MASSACHUSETTS 02139 (617) 491-5

George J. Nolfi, Jr.
President

ED139738

ADULT OPEN LEARNING

Federal Investment in Research and Experimentation

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

By

George J. Nolfi, Ph.D.

Final Report in the series *Working Papers on Adult Open Learning: An Analysis of Policy and Programmatic Issues for the Purpose of Identifying Opportunities for Research and Experimentation*

Prepared under contract
#NIE-C-74-0103
Dr. Jerome E. Lord, Chief
Open Learning Systems Branch
National Institute of Education
Washington, D.C.

CE 010 817

Executive Summary of

Conclusions and Recommendations

in

ADULT OPEN LEARNING

FEDERAL INVESTMENT IN RESEARCH AND EXPERIMENTATION

By

George J. Nolfi, Ph. D.

July 1975

Final Report in the series "Working Papers on Adult Open Learning: An Analysis of Policy and Programmatic Issues for the Purpose of Identifying Opportunities for Research and Experimentation"

Prepared under contract
#NIE-C-74-0103 for
Dr. Jerome E. Lord, Chief
Open Learning System Branch
National Institute of Education
Washington, D. C.

EXECUTIVE SUMMARY

This white paper constitutes the final report of a three-part project* in adult open learning conducted for the National Institute of Education.** The purpose of this report is to stimulate discussion in adult open learning research, development and experimentation. The project consisted of seminars, and a series of seven working papers and a final report prepared by the author. Representatives from the education, research and planning community as well as industry, labor and service agencies were invited to the seminars. The agenda were designed to systematically address a wide range of issues and points of view with respect to open learning policy. Highlights of the conclusions and recommendations of the white paper are summarized below. These are presented on the basis of our current understanding of the "adult open learning universe" in America, and of the appropriate leverage points in that universe for research and experimentation.

I. CONCLUSIONS: PRIORITY SOCIAL PURPOSES FOR PUBLIC INVESTMENT IN OPEN LEARNING

Open learning has tremendous potential to assist in future social and economic progress in America. Its promise is more than is seen in the simple statistics of larger numbers of adults returning to school or the excitement of specific experiments. It can be the new opportunity for access to education, training, and social mobility by disadvantaged groups in society. It can provide education for those who missed the chance in youth and now lack not the will but the time, money, self-confidence, or geographic proximity for learning. It can provide mid-career retraining for those buffeted by technological shifts in the economy. Finally, it can be a force for revitalizing America's cultural and humanistic traditions and the promise for each citizen to pursue his/her potential to the maximum.

Because open learning will have larger social implications, and because the realization of its potential will depend on who goes, what they learn and how they study, public policies and investments to shape its scope and direction must b carefully considered at the federal and state levels.

*Study Director, Dr. George J. Nolfi, President, University Consultants, Inc., Cambridge, Massachusetts

**N.I.E. Project Officer, Dr. Jerome E. Lord, Chief, Open Learning Systems Branch

Public policies and investment in open learning research and experimentation should be derived from social needs to alleviate social dependency, improve the manpower skills base and deal with labor market shifts and unemployment

The first priority for federal action should be to encourage the extension of access to adult open learning for currently underserved clienteles. The most striking and troublesome fact about the existing pattern of adult open learning is the virtual exclusion of lower income, occupation and education groups. The evidence is clear that their desire to learn is high, as is their willingness to pay, but the responsiveness of the education system has been modest. Barriers such as cost, poor information, low previous grades, red tape, lack of transportation and curricula irrelevant to their non-professional occupational needs exist. The current wave of open learning innovation in the academic community has failed to overcome these barriers. Open learning's current clientele is primarily adults of higher income, job status and previous educational attainment. Many receive subsidies (e.g., from employers) or direct salary increments exceeding their investment in open learning and hardly need further assistance.

Two groups in particular must be reached through new modes of service delivery -- the "disadvantaged" and the "second-chance" clienteles. The disadvantaged will require expanded programs in remedial education, counseling, job placement, financial aid. The second chance have many skills developed on the job or in non-credit learning settings and need certification of skills and means to convert their nontraditional learning into credit. The former group is likely to be more costly on a per capita basis but constitutes the highest social priority; the latter constitutes a cost-effective priority.

Most innovations by educational entrepreneurs start from the perspective of the teaching learning mode itself rather than from a clear perception of client need; as such, they often fail to consider whether this new approach will meet the needs of currently underserved clienteles, or simply of those types of adults already served.

The current uncoordinated development process driven by the initiatives of professional educators might, if unaltered, lead to the following unfortunate result: not only will an elite group of students receive the best education as youths, but it will be the only group which will continue to receive upgrading and further learning as adults. The author has shown elsewhere how the existing system of continuing education and open learning is serving selected "elite" clienteles, how it is thus acting to widen rather than reduce the gap between adults who are at the upper end of the socio-economic scale and those who are at the lower end, and how state initiatives should focus on "disadvantaged" and "second chance target clientele."

The second priority should be to insure that new investments in open learning build upon existing resources. A wealth of formal and nontraditional options are now available to adults. Enrollments in the "adult open learning universe" are at college and universities (25%), proprietary schools (28%), on-the-job training or union-based programs (27%), community classes(13%), correspondence classes (8%), and private centers and instruction (10%). Part-time study and a consumer-centered "learning market" characterizes this open learning universe in marked contrast to traditional full-time higher education. Public investment should build upon and strengthen this system in a selective fashion, not duplicate or replace it. Many of the characteristics of new "non-traditional" open learning initiatives in higher education were developed long ago in other sectors of this universe. Moreover, most of the contribution of traditional higher education has come through extension programs, with the recent high profile nontraditional innovations accounting for less than one percent of the total adult open learning activity.

In practical terms, this means that an investment strategy to expand American open learning should be selective, explicit, and cost effective. Definitions of labor market, economic and social goals should be precisely drawn, and policies should be targeted where there is the greatest need and opportunity for leverage. Research and development should be directed at broad social needs (not at esoteric educational innovation reflecting the fads and fancies of education professionals), and at innovations which can be easily disseminated and adapted in a variety of diverse settings. Finally, evaluations should be built into each project to insure that the link with social objectives and client needs is made and measured after the fact.

The third priority is to adopt a "consumer's point of view" in designing open learning. Research and experimentation should be attuned to social priorities and client needs rather than the needs and goals of institutions and education professionals. Too often, support is given to institutions to develop programs which in the end have little relevance to the student. The prime focus of strategies to stimulate open learning should be on students who need financial aid and on services specifically tied to their educational styles and needs. Such an approach will lead to institutional diversity and to responsiveness to labor market, economic and social dependency needs.

Whether open learning over time will remain an elitist institution in our society or whether it will effectively serve the wide range of nontraditional students which need it most, depends primarily on the nature of the initiatives undertaken in student subsidy mechanisms, in teaching-learning modes and delivery systems, and in educational and career counseling systems over the next few years. Importantly, such initiatives need not always be dramatic or extensive in character. Research indicates that adult learners prefer direct student subsidies allowing them to make their own educational decisions rather than institutional subsides to only public institutions. They also prefer traditional learning formats (involving meeting with an instructor and other students) offered at convenient times and places, and want counseling which relates education and careers.

II. THE INVESTMENT AGENDA: RECOMMENDATIONS FOR RESEARCH, EXPERIMENTATION AND EVALUATION

To achieve the social purposes for open learning outlined above, several steps should be taken. These are derived from six major recommendations.

- --Utilize existing open learning resources efficiently;
- --Insist on an orientation to client needs;
- --Experiment with diverse financing schemes with a focus on the subsidy of consumers rather than suppliers;
- --Develop the relationship of open learning to the world of work
- --Foster diverse modes of credentialing; and
- --Clarify research and development leverage points in the open learning universe.

Highlights of the many specific planning and investment recommendations provided in this report are summarized below.

A. TO ACHIEVE EFFICIENT UTILIZATION OF EXISTING OPEN LEARNING RESOURCES:

--Concentrate new initiatives primarily in nontraditional sectors. Traditional higher education in the past has by a wide margin received proportionately more funds than its share of the student population or its service to social priority clienteles justify.

--Develop linkages in the system,
among institutions to create a "network" serving adults,
with the regional economy and labor market through advisory committees and placement offices,
with new clienteles through community-based outreach and counseling centers.

--Determine the cost effectiveness of various institutions and teaching approaches through comparative studies and competitive funding strategies (fund parallel experiments in, for example, a union, a proprietary school, and a traditional college). This will be facilitated if investments are framed in terms of categories of services rather than types of institutions or structures.

--Disseminate and replicate successful programs through conferences, periodic reviews of the literature, and matching fund investments which complement rather than supplant private investment in open learning.

--Foster incremental changes nationally in the existing providers of adult open learning services (e.g., traditional continuing education). These will yield greater leverage than a small number of expensive, particularly striking experiments at few institutions and locations.

B. TO ORIENT OPEN LEARNING TO CLIENT NEEDS:

--Develop means to alleviate social dependency, improve the skills base in the labor force, and reach currently excluded groups through experimentation with programs designed specifically for the "disadvantaged" and "second chance" clienteles, and through analysis of the value of education to students and the links of human resource development to education to labor market changes.

--Give subsidies directly to consumers rather than to providers. (See Finance recommendations in Section C below.)

--Expand occupationally oriented courses and learning options, counseling and diverse means of credentialing diverse skills.

--Develop an improved understanding of how to match various teaching-learning modes and delivery systems with the characteristics of varied clientele groups.

--The interrelationships between teaching-learning modes or delivery systems and the effective provision of service to particular clienteles stem from fundamental facts:

Adult learning styles vary;
Adult learning interests and needs vary;
Adult participation in open learning is determined by several factors and barriers;
Particular teaching-learning modes have differential impact on subgroups of the population.

Thus, any particular mode or delivery system will have a differential impact on subgroups of the population.

C. TO EXPERIMENT WITH DIVERSE FINANCING SCHEMES WHICH FOCUS ON SUBSIDY OF DEMAND :

--Give subsidies for open learning primarily to consumers directly, not to institutions, so as to preserve and strengthen the market forces which have historically led to institutional diversity innovation and cost effectiveness in the adult open learning universe. Consumer payments and subsidy of demand by employers in the past have been the primary means by which the vast open learning activity has been financed.

--Limit use of institutional subsidies primarily to the development of noninstructional programs such as outreach counseling or for new occupationally oriented curricula.

--Provide financing selectively and focus on alleviating the social dependency needs of adults, improving the skills base of the labor force, and solving social problems. Given limited resources and the magnitude of these needs, dwelling on subsidy programs for recreational and cultural pursuits of upper socio-economic classes would be socially regressive.

--Develop diverse and pluralistic financing sources and modes with particular attention to the design and implementation of public policies and investments which will complement the existing public and private investments and not simply replace them. New investment should be specifically designed to stimulate this open learning market to provide those services now lacking.

--Specifically, experiments and comparative evaluation of a diverse set of financing schemes should be undertaken:

(1) Selective entitlement vouchers for target clienteles having high social priority; universal entitlements; and individual tax credit entitlements;

(2) Block purchase of educational services and programs of various types by specific groups for various purposes, such purchases being from the variety of providers within the adult open learning universe.

(3) Student bank or trust fund approaches involving voluntary or forced savings, and credit schemes such as contingent loans.

(4) Subsidies to individuals by employers, unions and the military for the purchase of educational services.

(5) Long term general institutional subsidies to various types of open learning service providers

(6) "Venture" financing of specific innovations

(7) Creative combinations and linkages of the above mechanisms.

--Concentrate on increasing educational productivity through open learning by analysis of the origin and distribution of costs and benefits. Cost structures in the open learning process must be delineated with specific attention to the fraction of costs borne by students, employers, the government, direct or indirect intra-institutional subsidy, and comparison of alternative approaches.

D. TO ENHANCE THE RELATIONSHIP BETWEEN OPEN LEARNING TO THE WORLD OF WORK:

--Reexamine the assumptions underlying the conventional wisdom about the relationship of open learning and the world of work. Many employers do not regard educational institutions as the most appropriate place for open learning related to the world of work to be pursued. Moreover, while educators dwell on "exciting" and highly publicized open learning initiatives, many involved in employer personnel functions are highly skeptical of the utility of such initiatives. They contend that initiatives usually lack client and employer input in their design, and tend to be more in line with the interests of the education profession than the needs of the world of work.

--Understand better the relationship between education and training to job performance for the adult through longitudinal survey and interview studies.

--Document employer-based education activity, including analysis of the pattern of incentives and benefits which have led to its existence (e.g., employee productivity, organizaiion building, provision as an employee benefit, etc.). The cost-effectiveness characteristic of such an activity in comparison to the other forms of open learning should also be examined.

--Experiment with programs that relate job needs with education, including:

(1) development of school-employer cooperative programs, and increased availability of traditional degree programs at a time and place for working adults;
(2) conversion of job skills and attributes considered important by employers into curriculum materials (importantly, these skills and attributes are rather different from academic course competencies);
(3) a priority for public investment on open learning to deal with remedial and entry level skill upgrading permitting and encouraging employers and unions to undertake further skill development programs related to job performance.

E. TO FOSTER CREDENTIALING ALTERNATIVES AND OUTCOME BASED ASSESSMENT:

--Redirect competency and performance based approaches to assessment, certification, and the award of credentials so that they will be based upon basic skill areas (particularly those perceived as important by employers) and not in traditional academic terms. While structures should be created which permit individuals to convert learning outcomes from different types of learning settings into academic equivalencies, alternatives to academic course equivalency are needed. These should be based on fundamental competencies of performance in adult life.

--Assign priorities to work and career related competencies, particuarly as they relate to performance qualifications, or job clusters and career ladders which could be pursued by the target "disadvantaged" and "second chance" clienteles.

--Develop alternative credentials to traditional academic credentials, gether with the ability to determine nonacademic competencies as mea of qualities or extent of learning are needed. It is absolutely wrc to view traditional academic course equivalency and academic creden- tials as the only kind, or even most appropriate measure of learning outcomes and educational attainment.

--Fund employer education specialists, union education staff, the military, and proprietary schools to develop measures of compe- tencies and performance abilities related to career and social performance, recognizing that they are often better able to do so than traditional higher educators.

--Avoid the homogenizing effect and social biases possible in assessment and certification through fostering a diversity of approaches for competency and performance-based assessment. Place emphasis on the development of techniques in several sectors of the open learning universe and not just in the higher education sector. Avoid single models or a national organization.

--Recall that the detrimental effects of rigid and generally utilized standardized tests (particularly those which are norm- referenced) is well known. Further, some employers, fearful of such homogenizing tendencies have refused participation in some current equivalency undertakings. They do so on grounds of the flexibility of their program, the rigidity of the "academic equi- valency" determination approach, and a desire to foster employee development and promotion based on basic skills and job performance, not on academic credentials.

--Recognize that open learning is not new; it has been taking place in the noncollegiate sectors of the adult open learning universe for years. What is new is its legitimacy in the eyes of traditional educators, and the willingness of those educators to accept the transferability of that learning into traditional academic record keeping formats. A dual approach, fostering the assessment of individual learning and the assessment of programs as a whole for equivalency is appropriate.

F. TO CLARIFY RESEARCH AND DEVELOPMENT LEVERAGE POINTS IN OPEN LEARNING:

--Allocate funds among research and development proposals or experimental programs, paying particular attention to testing and assessing the effectiveness of alternative investment strategies including:

(1) Subsidy to stimulate demand (subsidizing consumers) versus stimulating supply of new open learning intitiatives (subsidizing entrepreneurs);
(2) Funding similar programs and initiatives in competitive institutions, sectors and situations for comparison;
(3) Incentive matching versus full funding arrangements;
(4) Strategies for planning open learning by service categories rather than by institutional types;
(5) Block purchase of service approaches in institutional subsidy and direct general capacity building:
(6) Small scale versus large scale experiments;
(7) Legitimization strategies, and evaluative research on the result of existing experiments versus continued funding of "demonstrati
(8) Dissemination replication and consolidation of existing initiati versus new start-ups;

(9) More broad based and diverse support versus continued funding developments in only a small number of institutions in the theory that they will be "industry leaders."

In the full final report,*** the rationale for each of these recommendations is elaborated in detail and numerous specific research and experimentation proposals are presented.

***George J. Nolfi, Adult Open Learning: Federal Investment in Research and Experimentation, Cambridge, Mass., University Consultants, Inc., 1975, 205 pp. A study prepared for the National Institute of Education.

TABLE OF CONTENTS

EXECUTIVE SUMMARY i

PART ONE: INTRODUCTION AND OVERVIEW 1

I. White Paper, Working Papers and Discussion Seminars: Three Parts of the Research Planning Process 2

PART TWO: FACTS, DEFINITIONS AND AN ANALYTICAL PERSPECTIVE 8

I. Background: What is Adult Open Learning and What do We Know About It? 9

A. The Current Open Learning Universe 9

(1) Institutions in Open Learning 12

(2) Students in Open Learning 20

B. The status of Research and Innovation in Open Learning 23

(1) Theoretical and Emperical Strands of Research 23

(2) Innovations in the Adult Open Learning Universe 26

(3) Innovations in the College and University 28

(4) Limited Research on Adult Clienteles, and Limited Innovation to Serve Adults of Lower Income, Education and Job Levels 31

(5) Agenda for Research in Adult Open Learning 34

II. An Analytical Perspective and Points of Departure for Research and Development Investments 40

A. Lack of Complete Consensus on Social Objectives For Open Learning 41

B. Research and Experimentation Objectives in Adult Open Learning Should be Derived From and Consistent With Social Priorities 45

C. Lack of Complete Consensus on Social Objectives for Open Learning 47

D. Purposes and Strategies Objectives: 48

(1) Increasing Access for Underserved Adult Clientele 50

(2) Taking the Consumer's Point of View in Designing Open Learning 53

(3) Utilizing and Coordinating Diverse Provider's of Open Learning Services 55

(4) Responsiveness to Labor Market, Economic and Social Dependency Needs 57

E, The Boundary Definitions of the Adult Open Learning Clientele (AOLC) and the Universe of Providers of Educational Services Used by Adults, the Adult Open Learning Universe (AOLU) Should Be Broadly Conceived 58

F. Dilemmas in Research and Development Strategies 60

PART III: PRIORITIES FOR INVESTMENT IN RESEARCH OF EXPERIMENTATION 65

I. Extended Postsecondary Open Learning Opportunities Through the Utilization of Existing Resources and Initiatives in the Several Sectors of the Existing Open Learning universe 65

A. The Broad and Diverse World of Existing Resources for Open Learning 65

B. Guidelines for Research and Development Investments Which Will Yield Greater Utilization of Existing Resources 68

(1) Consideration of Strengths and Unique Capabilities of Each of the Sectors of Open Learning: Priority on Sectors other than Traditional Higher Education 68

(2) Create Linkages Between Providers 70

(3) Strengthen the Market Character of the Adult Open Learning Universe and Create Incentives for Consumer and Provider Responsiveness 73

(4) Develop Open Learning Sectors Other than Higher Education and Focus on Target Clienteles 76

(5) Comparative Analyses of the Several Sectors within the Adult Open Learning Universe 78

(6) New Efforts Should Leverage Initiatives, Innovations, and Experiments Underway 80

II. Financing Adult Open Learning: Varied Needs and Approaches 86

A. General Issues in Identifying Research and Experimentation Needs in Financing Open Learning 86

(1) Financing Strategies for Open Learning Should Be Derived from Social Priorities and from the Unique Character of the Current Financing Patterns in the Adult Open Learning Universe 87

(2) Federal Subsidies for Open Learning Should be Directed First Towards Solving Social Problems and Improving the Skills Base in the Labor Force 87

(3) Existing Adult Open Learning Is Financed in a Market- or Consumer-Oriented Fashion Through Consumer Payments and Demand Subsidization 89

(4) Guidelines for Financing Open Learning 91

(a) Needed: Subsidy of "Demand" vs. Subsidy of "Supply" 91

(b) Public Financial Investments in Open Learning Should Complement, not Supplant, Existing Private Investment 93

(c) Diverse and Pluralistic Financing Sources and Modes are Needed 95

B. Financing Mechanisms Which Can Be Used for Adult Open Learning 99

Mechanism 1: Financing Open Learning Through Entitlement and Other Grant Programs (Selective Entitlement Vouchers for Target Clienteles Having High Social Priority; Universal Entitlements; Individual Tax Credits) 100

Mechanism 2: Financing Open Learning Through Block Purchase of Educational Services by Public and Private Agencies for Specific Groups Has Been Used in Manpower and in Other Training Programs Related to Social Problem-Solving or Employer Needs 109

Mechanism 3: Financing Open Learning Through Student Self-Support and/or Loan, "Bank," Trust Fund, or Other Credit Approaches 113

Mechanism 4: Financing Open Learning Through Subsidies to Individuals by Employers, Unions, and the Military for the Purchase of Educational Services 117

Mechanism 5: Long Term General Institutional Subsidies to Certain or All Classes of Institutions and Providers of Open Learning and Continuing Education Services 119

Mechanism 6: "Venture" Financing of Innovations and Activities Which Provide Instruction 126

Mechanism 7: Financing Open Learning through Advantageous Combinations of Above-Mentioned Approaches 128

C. Understanding Cost Structures, Cost/Benefit Characteristics, and Productivity Questions in Open Learning 129

(1) The Education Production Process 129

(2) Tension Between Formula Budgeting Approaches for Traditional Higher Education Institutions and the Characteristics of Open Learning 129

(3) Productivity Questions 130

(4) Cost Analysis: Varied Approaches 132

(5) Use of Existing Open Learning Programs as a Cost/Effective Base for Expanded Services 134

(6) Costs and Benefits, Origin and Distribution 135

III. Open Learning and the World of Work 139

A. Reexamining Assumptions About Open Learning and the World of Work 139

B. The Relationship of Open Learning to Job Advancement of Adults and Implications for Policy 139

(1) Incentives, Costs and Benefits of Open Learning in the World of Work: Criteria for Private and Public Investment 141

(2) Priority in Open Learning Services Related to the World of Work for Target Clienteles 142

(3) Job and Career Advancement May Have Little to do with Academic Credentials Per Se 143

(4) Skills and Services Needed through Open Learning for the World of Work Are Not Traditional Academic Courses 144

C. More Needs to Be Known About Employer-Based Educational Activity 146

(1) Reasons for the Existence of Formal Employer-Based Educational Activity 147

(2) Formal Employer-Based Educational Services Are Not Available to the Majority of Workers 148

(3) Return to Employers from their Investment in Open Learning 149

D. Increasing the Responsiveness of Traditional Higher Education to the Needs of the World of Work 150

(1) Relating Learning in the World of Work to Academic Learning Without Losing the Distinct Characteristics of Each 151

(2) Offering Traditional Degree Programs at Time and Places Convenient for Working Persons, A Consumer Preference 153

(3) Cost/Effectiveness Comparisons of Employer-Based Education Models and Traditional Models 153

IV. Matching the Needs of Specific Clienteles With the Characteristics of Specific Teaching-Learning Modes and Delivery Systems 155

A. Introduction 156

B. Implications for Choice of Teaching Modes and Delivery Systems for Achieving Clientele Service and access Objectives 157

(1) Financial and Institutional Constraints, not Lack of Interest, Account for Low Participation Rates of Target Clienteles 158

(2) Priority on Designing Teaching-Learning Modes for Target Clienteles 158

C. The Diversity of Learning Styles in the Population 160

(1) Adult Learning Styles Vary 160

(2) Adult Learning Interests Vary 160

(3) Adult Participation in Open Learning is Determined by Several Factors 161

(4) Particular Teaching-Learning Modes Have Differential Impact on Subgroups of the Adult Population 161

D. The Present Knowledge Base -- What We Know About the Matching of Clientele Needs with the Characteristics of Teaching-Learning Modes and Delivery Systems 163

(1) Inadequacy of Present Knowledge 163

(2) What New Knowledge is Needed 164

(3) Research is Needed to Permit Efficient Use of Resources Invested 165

E. A Conceptual Framework for Developing a Knowledge Base for Matching the Needs of Clientele with the Characteristics of Teaching-Learning Modes and Delivery Systems (Defining New Knowledge Needed Through Research and Experimentation) 165

(1) Conceptual Framework for Analysis 165

(2) Priorities for Research and Experimentation on the Diverse Needs of Diverse Clienteles 166

V. Competence- and Performance-Based Assessment and Credentialing of Learning Outcomes 172

A. Uses of Assessment to Related Learning Outcomes Between Sectors of the Adult Open Learning Universe 173

B. Assessment, Certification and Credentialing to Meet Social Needs 174

C. Alternatives to "Academic-Course-Equivalent Competencies" Based on Fundamental Competencies Are Needed 174

D. Certifying People with Credentials Other than Academic Degrees 175

E. Assessing the "Non-Course" Outcomes of Academic Degree Study 176

F. Avoiding Homogenization and Social Bias in Assessment and Certification 177

G. Developing Assessment Approaches Suited to Target Clienteles for Expanded Open Learning 178

H. Learning Outcomes as a Basis for Educational and Career Courseling of Adults 178

I. Development of Economical, Easily Applied Assessment Techniques 179

J. Needed: Development of Assessment Approaches Used in Sectors of the Adult Open Learning Universe Other Than Academic Institutions 179

K. Assemply and Dissemination of Existing Assessment Techniques 180

VI. Investment Strategies for Fostering Adult Open Learning 182

A. Investment Strategy Should be Explicitly Selected 184

B. Federal, State and Other Roles: Costs and Benefits of Innovation 186

C. Strategies of Stimulating the Demand for or the Supply of New Open Learning Initiatives (Subsidizing Consumers or Subsidizing Entrepreneurs) 188

D. Strategies of Fostering Open Learning by Types of Services Rather Than by Types of Institutions 190

E. Strategies of Planned Complementarity Versus Spontaneous Randomness and Parellel Experimentation 192

F. "Model Approach" or "Industry Leader" Strategies 193

G. Legitimation Strategies 194

H. Too Much Emphasis Historically Has Been Placed on the Funding of Demonstrations and Various Types of Projects for Innovation in Education and Adult Open Learning, With an Inadequate Amount of Evaluative Research on Those Projects as They Occurred to Determine What They Actually Accomplished for the Resources Invested 195

I. Dissemination and Implementation Strategies 197

J. Strategies of Big Experiments and Little Experiments 201

K. The Field of Adult Open Learning is Still in its Infancy, and Multiple, Simultaneous and Competitive Funding Strategies are Appropriate 202

L. Matching Funds Strategies 202

M. Strategy of Focus on Discernable Gaps in Existing Innovation Patterns and Knowledge: Taking a Long-Term Perspective 203

N. Strategy of Focus on Natural Leverage Points for Innovation in the Adult Open Learning Universe and Recognizing the Limits of Responsiveness to Innovation in Each Sector 204

O. Strategy of Building on the Entire Spectrum of Existing Resources: The Question of Independence or Integration 206

P. Meeting Resistance to Expanded Open Learning from Traditional Institutions 207

Q. Potential Undesirable Outcomes of Innovative Trends 208

R. The Strategy of Linking Existing Resources and Understanding the Effect of Intervention Modes 209

APPENDIX A-1

PART ONE

INTRODUCTION AND OVERVIEW

I. WHITE PAPER, WORKING PAPERS, AND DISCUSSION SEMINARS: THREE PARTS OF THE RESEARCH PLANNING PROCESS

This White Paper, the seven working papers in this series, and the discussion seminars are part of a process to formulate a policy strategy and priorities for investment in research, development, pilot testing, experimentation, evaluation and dissemination in the broad subject area of adult open learning.

This paper, the working papers, and the seminars conducted were part of an interrelated strategy to stimulate provocative and expansive discussion regarding investment in adult open learning research, development and experimentation.[1] This paper and the working papers specifically conceptualize research needs as related to social policy objectives in the open learning field.

This three-part project grew out of a seminar convened in February 1974 by Dr. Jerome Lord of the Open Learning Systems Branch, National Institute of Education, in which the author was a participant. Following that seminar it was evident that a more detailed and longer term discussion and analysis of open learning investment needs would be useful. Subsequent work by the author in response to Dr. Lord's request resulted in the suggestion of the six major subject areas around which seminars would be held and working papers prepared.

The discussion seminars focused on specific sub-topics, chosen in accordance with these social priorities. Knowledgeable individuals from within and outside the education community and from open learning funding agencies were invited. Representatives from industry, labor, community agencies and others not usually involved in education research and planning efforts were deliberately involved to broaden and deepen the perspective of the seminar discussions. The participants in each seminar are listed in each working paper.

It is not the intent of any working paper in the series to produce a lengthy or random listing of potential research projects nor an exhaustive review and cataloguing of what the literature reveals is "known" or "unknown" about a particular matter. Rather, the intent is to provide a perceptive analysis of the issues which will be useful in assisting discussion, deliberation and decision about public investment in open learning, particularly in research and experimentation. The topical working papers "map" each subject area, highlighting issues to be addresssed, complementing and expanding the themes in Part Three of this White Paper in greater detail.

The topical foci selected for the working papers (and chapters I to VI in Part Three herein) reflect the perspective of the phenomena and problems of open learning selected by the author. The central question for each seminar was derived from social priorities and current stresses and opportunities for progress with open learning. The conceptual framework was supported by the seminar discussions and it is elaborated analytically in each of the papers. Specific suggestions for research and experimentation are indicated for each topic.

This conceptual framework is not the only one which could have been used. It reflects what, in the author's best judgment, is the most provocative and illuminating framework for developing sound research investment strategy in adult open learning and for funding research and experimentation which will be relevant to social policy needs.

The working papers are listed below:

Paper #1 "Introduction and Overview of Overall Approach and Intent"

Paper #2 "Expanded Postsecondary Open Learning Opportunities through the Utilization of Resources and Initiatives in the Several Sectors of the Existing Open Learning Universe"

Paper #3 "Financing Open Learning: Varied Needs and Approaches"

Paper #4 "Matching the Needs of Specific Clienteles with the Characteristics of Specific Teaching-Learning Modes and Delivery Systems"

Paper #5 "Open Learning and the World of Work"

Paper #6 "Competence- and Performance-Based Assessment and Credentialing of Learning Outcomes"

Paper #7 "Strategies for Fostering Open Learning"

Paper #8 "PROJECT FINAL REPORT CONCLUSIONS: 'WHITE PAPER' ON FEDERAL INVESTMENT IN ADULT OPEN LEARNING: OPPORTUNITIES AND NEEDS FOR RESEARCH AND EXPERIMENTATION"

Appendix "Reference Bibliography on Adult Open Learning" (keyed to working paper topics)

OVERVIEW

The purpose of this report is to provide the basis for an expansive and stimulating discussion of the need for research in open learning. The seminars, review of literature and other research underlined the extent of that need. Groups of highly talented researchers and practitioners were assembled in the seminars to draw together the best collective knowledge, opinion and judgment in the field. High level discussion was possible -- the knowledge base is adequate for that -- but the striking characteristic of all the discussions was the frequency with which nearly any line of reasoning turned up an issue of uncertainty and an array of unknowns. Such is the nature of the field. A research investment strategy and a framework for defining investment opportunities is therefore essential. That being the case, this report identifies and addresses in open learning the most salient areas for research and experimentation. The analytical perspective developed in Part Two of this paper reflects the social role of open learning and current social policy needs, and from the start determined the particular topical focus selected for the seminars and working papers.

The author wishes to express his appreciation to Dr. Jerome E. Lord, Open Learning Systems Branch, and the National Institute of Education for his sponsorship of this project and for his exceptionally helpful criticism of the manuscript. Thanks are also due the participants in the seminars (listed in each working paper) and to the many individuals who, through individual informal conversations, have assisted in sharpening the themes developed in the papers. Those stimulating discussions were

most helpful in formulating the recommendations herein. Appreciation is also extended to Ms. Valerie Nelson, an associate of University Consultants, Inc. and member of the Public Policy Faculty, Kennedy School of Government, Harvard University, for her critical review and suggestions on the manuscript. Ms. Sally M. Kennedy of University Consultants, Inc. deserves thanks for her editorial and production assistance.

These papers are not intended to summarize the seminars, other discussions or the working papers. The conclusions, interpretations and recommendations in this report are also based on other research and analysis and would not necessarily be agreed to by all seminar participants. The author of course assumes responsibility for the particular analytical perspective of the paper and for its weaknesses.

This paper reflects a considered set of recommendations for expanding adult open learning, and a perspective for future consideration of investment strategies. The main theme and focus of each working paper is presented in this final report. The complexity of the discussion, however, is such that the reader should not rely on these comments as complete summaries of the contents of the working papers. They are essential highlights, and the reader is referred to each individual paper for detailed recommendations of research and experimentation needs.

This "white paper" is organized into three main parts. Part I consists of this introduction. Part II provides a brief background discussion of the phenomenon of adult open learning as well as an analytical

perspective for considering investment needs in the field -- a point of departure for the discussion of investment priorities which appears in Part III.

In Part III, a perspective for discussion of a research investment strategy in adult open learning is presented for each of six recommended priority areas of focus for funding efforts. These chapters are not intended to be exhaustive literature reviews or reports of field research (more specific detail and review of literature and experience appears in the draft working papers), nor are they intended to be advocacy for expanded adult open learning (others have made that case quite well).

Rather, each of the chapters in Part III is a discussion of the major issues of concern within each topic area constituting the conceptual framework and agenda for investment in open learning. The discussion is intended to be expansive and to provide a firm perspective on how the particular area can be most constructively analyzed, but also presents open perspective on the nature of uncertainty and lack of knowledge in the area which whould be the focus of research. In each chapter, guiding principles which are fundamental to the topic are presented as well as strategies for investment and specific suggestions for research undertaking.

PART TWO

FACTS, DEFINITIONS AND AN ANALYTICAL PERSPECTIVE

I. BACKGROUND: WHAT IS ADULT OPEN LEARNING AND WHAT DO WE KNOW ABOUT IT?

A. The Current Open Learning Universe

While the term "open learning" originated in describing flexible teaching in classrooms at the elementary school level, it has come to refer to an expanding array of adult, postsecondary level educational activity. In its new application, the term implies not only flexible teaching methods, but also a variety of institutional arrangements and an "openness" to new clienteles of adult students. Open learning encompasses in its broadest sense any type of formal education, degree credit as well as non-credit, job training or academic subjects.

For this paper "Adult Open Learning" is defined to include the broad range of educational pursuits and activities, formal and nonformal, in which adults participate. It does not include (and certainly is not focused upon) the spate of innovations in traditional full-time undergraduate collegiate instruction typified by the experimental colleges and independent study programs which have grown so in the last decade. These are excluded because they are primarily for traditional-youth-full-time students. (Elsewhere in this paper the argument for separate consideration of the "adult open learning clientele" and the "adult open learning universe of providers" as very distinct from traditional higher education is developed.)

Hence, the focus is on that spectrum of educational activities pursued by adults who are past their years of formal schooling, e.g., over

twenty-five years of age, and who are studying primarily on a part-time basis as an activity secondary to their primary job and family responsibilities. Such a definition places an emphasis on the learning as opposed to any particular format and on an obligation to serve any adult clientele with a learning need, regardless of formal credentials or lack of them.

As a system of institutions and students, adult open learning today has the following key characteristics: great diversity in types of institutions; decentralized and uncoordinated programs with minimal government of professional intervention or monitoring; and an orientation toward the middle and upper classes and their interest in schooling for job advancement. Each of these characteristics is particularly important in the design of a research and investment strategy.

Educational opportunities for adults have developed over a number of years in an uncoordinated fashion, and largely free from the guidelines or constraints typical of the traditional higher education community. This freedom from professional control or standards or opinions of accrediting and government funding agencies resulted in both greater flexibility -- such as in fewer entrance requirements, flexible teaching modes, variety of faculty qualifications -- and a diverse set of institutions (see discussion of the array of providers in a later section), many of which offered educational programs only secondarily to meet other objectives such as worker productivity or community service.

The primary impetus for most adult learning has been the motivation for

job advancement. In order for adults to take time and money away from family and job responsibilities, education had to be an investment which would bring certain results. This factor has also had implications for the settings and institutional formats for adult learning -- much of the activity has been found in employer-based, union, or military settings or in proprietary training schools. To accommodate adults, classes have been held during evening or weekend hours, and noncredentialed but experienced faculty have been utilized. Much less interest, at least as reflected in willingness to commit substantial time and money, has been put into avocational education, but these adult education programs have grown as well in recent years.

Finally, with job advancement as a key criterion of the success of the program for adult enrollees and little in the way of external professional guidelines, fairly stiff competition developed among the several providers of open learning services to attract and hold the adult student. This competition often brought high turnover rates in programs and courses, depending on the market for them at the time, and a great deal of innovation and responsiveness to the particular varients of adult need and convenience.

The particular modes of financing of this open learning system have also fostered its orientation to client needs. Existing patterns of financing in each of the segments of open learning have historically evolved to reflect a reasonable distribution of costs and benefits to student and institution with no public support to provide any leeway. For example, students foot the entire bill for training in proprietary schools, while

employers subsidize a part of the continued education of their employees either through tuition subsidies or the establishment of in-company education programs. In either case, however, the value to the employer and the student will cover the costs of the education, with no outside government or foundation funding. Under these conditions the program must continually meet the test of value to the participants, a desirable criterion indeed.

Recently, this diverse and uncoordinated system has come under the attention of more traditional educators and policymakers and has been christened by the term "open learning." We see now colleges and universities experimenting and adapting along lines similar to trends pioneered years ago in other institutions and organizations. But it is fair to say that much of the current activity, at least in terms of numbers of adults reached, had developed long before public attention was specifically brought to bear on open learning or its particular segments.

(1) Institutions in Open Learning

In 1973 one in eight adults was involved in some form of adult education classes and these enrollments are diffused over a broad range of institutions; public or private schools (28%), college part-time (25%), job training courses (27%), correspondence courses (8%) classes in the community (13%), private instruction (6%), and other education activities (10%).[1]

Proprietary schools are small vocational or avocational schools run for profit. As many as 10,000 to 20,000 of these schools currently enroll five

to six million students in fields such as business and office skills, flight training, dance, automotive engineering, barbering and cooking. They typically are small (50-500 students), specialized in one particular skill or avocation and organized in short, intensive modules of practical rather than theoretical orientation. Classes are run at many hours to be convenient to the working person, and at graduation vocational proprietary schools usually award certificates or diplomas.

Many of the public high schools offer adult evening programs in trade and technical occupational fields and in avocational areas. Originally designed for basic education of immigrants with low educational background, these programs have since come to serve the leisure-time of adults as well as those wanting high school credit. Since these courses are primarily non-credit, and usually subsidized (at least indirectly), there is no need for record-keeping and fees charged are consequently low -- often $5 a course.

A great deal of education is directly coordinated between the employer and the employee. Firms, unions, and the military provide a significant percentage of adult learning, often tied very specifically to the job, but at other times more general in orientation.

Correspondence or home study schools offer courses in specialized occupational fields for those who prefer to study at home or cannot leave the home. Nationally about six million adults enroll in such non-degree-granting programs.

Other civic, religious or community organizations such as YMCA's and YWCA's, churches, and youth centers also offer low cost courses for adults, primarily in the avocational areas.

As of 1973 the degree-granting colleges and universities were meeting only about 25% of adult enrollments, and almost all of these were in the longstanding adult extension programs, which are quite separate and distinct from the full-time-youth-day program. While degrees are offered, the continuing education programs are operated in such a fundamentally different manner from traditional full-time-day higher education that they are more properly considered part of an "alternative system of postsecondary education" consisting of the array of providers in the adult open learning universe.[2] The programs have discretion without regard to restrictive traditional accrediting standards to offer courses in which students express an interest. The continuing education or extension director, more than any other individual in higher education, may be regarded as an educational entrepreneur responsive to his customers' needs. Under conditions of receiving an indirect institutional subsidy in the form of office and classroom space, the continuing education director may as he wishes juggle courses and students to balance the books. He may hire part-time faculty from inside the institution or adjunct faculty from other professions at fees lower than in the full-time

day program. He can hire this faculty on short notice, as consumer demand rises or falls in total or in specific areas. He may advertise a wide variety of noncredit courses to test student demand and then offer only those which will pay for themselves with high enough enrollments. In offering courses he is responsive to adults' expressed interests rather than to academic departmental prerogatives.

Under this flexible arrangement, many of the characteristics of open learning lately seen by higher educators as "nontraditional" were first developed: part-time self-paced learning, adjunct faculty, corrrepondence and media-based instruction, branch campuses, flexible calendars, etc. Again, the impetus for such flexibility was the response to the particular needs of adults for educational opportunities and the freedom from constraints or standards of the full-time higher education day model.

A comparison is made below of some of the salient differences between the full-time-day-youth model and the continuing education part-time-adult model in traditional higher education institutions.

	Full-time-Day-Youth	Continuing-Education-Part-time-Adult
ADMISSIONS	Matriculation upon entry	Open admissions
PROGRESSION	Regular progression geared to full-time student status although some part-time students allowed	Free entry and exit, self paced, geared to part-time student continuing his education

	Full-time-Day-Youth	Continuing-Education-Part-time-Adult
CLIENTELE, CHARACTERISTICS AND ATTITUDES	18-23, often in college because it is most convenient way to spend that particular time period or believe it should be done	23+, part-time, very high motivation, clearer sense of goals in pursuit of education, higher percentage have job-related objectives, have more knowledge from life and work experiences
SOURCE OF CLIENTELE	May draw students from a state or region or nationally	Nearly all students drawn from within a several mile commuting distance
FACULTY	Full-time, tenure	Contract faculty, part-time nontraditional (some), non-union, selected on the basis of professional competence (some) rather than discipline degrees
CURRICULUM	Tight discipline and curriculum committee control often perceived by students as marginally relevant	Flexibility to respond quickly with new courses and programs, direct accountability to the consumer (students). Offerings more determined by response to need for a given group of learners
RELATIONSHIP BETWEEN STUDENT AND UNIVERSITY	Student tied to a single institution	Often student learns at different institutions and organizations which are geographically convenient to him (unfortunately transfer policies sometimes inhibit this)
RELATIONSHIP BETWEEN UNIVERSITY AND COMMUNITY	Usually somewhat distinct and sheltered	Close relationship, programs and consumer often instituted and tailored in response to community needs
ACCOUNTABILITY	Faculty and departmental prerogative rather than student preference prevail, discipline and tenure based.	Student-consumer choice prevails over faculty prerogatives, performance based

Moreover, a system designed to serve adult needs should look less like the traditional day higher education system and more like a network involving several functions: needs (demand) analysis, outreach, open admissions, guidance, teaching, job-related courses, multiple access points, etc. Hence the adult extension and continuing education programs are more like the other nontraditional sectors of the adult open learning universe than like traditional full-time higher education.

A persistent problem in many discussions of adult open learning needs, and of new forms of recurrent education and nontraditional study is a failure to take adequate account of what resources presently exist and of how the present pattern of financing and provision of educational opportunities operates. This has led to many persistent misconceptions which should be clarified and dispelled.

Today a wealth of formal and nontraditional postsecondary education resources are available to adult students. If they can be coordinated, access for new groups of students can easily be increased. This existing system is largely invisible. It has grown by itself in response to need without public policy intervention. It is a highly vital system, involving large numbers of people in traditional collegiate educational institutions, adult education centers, in community and union-based programs, in proprietary school programs, and in many other educational activities designed for adults. It is principally a system which involves part-time study in contrast to the more traditional pattern of full-time study.

Hence the task of open learning investment policy should be to build

upon these existing resources. Public investment is not needed to build capacity but rather to strengthen certain weaknesses in the existing system of resources. Moreover, traditional higher education is but a modest component of the broad array of resources and the highly publicized nontraditional study movement accounts for less than 1% of the total adult learning activity. This theme and its implications pervade and are discussed in every section of this paper.

As the concept of open learning has spread and shown its feasibility, the traditional higher education sector and policymakers have begun to adapt several of these key characteristics as well as new attempts to build larger systems. Many individual colleges or universities are being forced by the declining full-time enrollments of high school graduates to seek elsewhere for potential clienteles, and if they offer appropriate programs they find a large adult market. Another impetus for nontraditional programs comes from the social pressure for equalizing opportunity and giving disadvantaged adults a second chance at a career.

The recent entrance of traditional higher education into the arena of open learning, and the resulting foundation and federal and state government efforts to support its development, have brought several key departures in the system. In the first place, the discussion and publicity has brought an added legitimacy to adult education. Not only will enrollments probably increase, but in time radical departures in the whole education system, for example, selective or general educational entitlements, may be taken.

In addition, new elements to open learning have been developed in higher

education institutions with the impetus of outside funding and assistance. Primarily these have occurred in the areas of large-scale technological development, counseling in personal and educational matters, coordination of information and referral, and credentialing of skill development and other life experiences. While no single institution on its own would have the resources to develop large-scale technological systems, foundation or government intervention can, with subsidies, encourage its development.

The information and referral systems are an innovation to the system, since they require coordination among the several sectors. Until outside commitments were forthcoming, no single segment or school had an interest in providing it. Counseling for other than job-related pursuits stems from the educator's concern for the student's well-being as much as from any need for it. Community-based educational and career counseling, on the other hand, is a clear need expressed by all adult clienteles (how expanded counseling services can be provided is discussed in a later section).

Finally, the necessity to develop credentialing methods reflects higher education's interest in standards and means of evaluating and comparing open learning experiences with traditional units or degrees of advancement. The trend toward determining academic credit equivalency for all forms of adult formal and informal learning has traditional higher educators as its prime advocate. Those in other sectors of the adult open learning universe are often more concerned with the dangers of program rigidity which credit equivalency can bring. They would often prefer to retain an unrestrained consumer-responsive posture.

In addition, federal, state and foundation money has assisted in the development of the beginnings of an empirical knowledge base about adult open learning. Importantly, however, nearly all of such research has concentrated only on the higher education sector of the adult open learning universe.

Several states have tentatively moved in the direction of large-scale statewide systems. Massachusetts has considered a role for the state of coordinating in a network the diverse set of existing institutional resources with a counseling and credentialing function at the state level and financial support for lower income and education adults.

Some states have created model statewide systems (New York's Regents External Degree Program and Empire State College, and New Jersey's Edison College), innovative segmental programs (Vermont's Community College Program), or single public institutions with a special emphasis on nontraditional learning (such as Minnesota Metropolitan State College, University of Wisconsin/Green Bay, or Evergreen State College in Washington). California has moved in the direction of an expanded extension-type program in the state colleges and university.

Many "experimental" programs are for young students, but in the last five years a flurry of efforts aimed directly at adult clientele has been initiated.

(2) Students in Open Learning

This open learning system has a broad base of support in the middle and

upper middle classes. Those enrolled currently are young, fairly well-educated, and of moderate to high income levels. Participants in 1969 were younger than the general population (18.2% participation rate for under 35 population, 7.7% for over 35), white (11.2% for Whites, 8.4% for Blacks), male (12.6% vs. 9.6% for females), better educated (85% had finished high school vs. in the general population 54% females and 51% males) and of higher family income and higher occupational status (40% of males in professional or managerial jobs vs. 22% in the general male population).[3] These tendencies for participation among a relatively elite group in the society are most pronounced for college and university programs, which tend to attract those with at least a high school diploma and often some college and less for other provider sectors in the adult open learning universe.

The needs and interests of these participants are primarily vocational in orientation. In a survey of potential learners in adult programs, 43% rated vocational subjects as their first choice of study, while general education and hobbies and recreation tied for a distant second of 13% each. The two vocational topics most commonly studied are technical and managerial skills, those in which, as expected, the educated, professionally-oriented participants express an interest.[4]

A typical student of 30 years of age or so perceives a direct monetary return, through salary upgrading, from additional educational pursuits. Moreover, for many in this group, various education subsidy plans are available, in addition to their own considerable discretionary income.

The most striking and troublesome fact about the existing pattern of adult open learning in America today is the relative exclusion of lower income, occupation and education groups from current systems of continuing education and open learning. This is only partially due to less interest on their part, and mainly to an inadequate response of the system to their needs. Surveys show that those of lower educational background and occupational status have substantially different interests in education than those who currently participate -- business, technical and industrial skills rather than professional or managerial. Nonparticipants also perceive different barriers to participation in education, such as cost, no information, low grades, too much red tape, and no transportation, while better-educated respondents to surveys find the main barriers to be lack of time and pressing family or job responsibilities.[5]

Importantly, however, the rates of interest in open learning among the lower income occupation and education groups, even when discounted for willingness to pay, far exceed current participation rates (relative to that difference for those adults of higher socioeconomic status).

Among the three potential clienteles for open learning, only one, the middle and upper middle class with substantial previous education, is being well-served, particularly in colleges and universities. Others, including both the disadvantaged and those with considerable skill development but lacking in academic credits or certification, are poorly served by the existing system. The "disadvantaged clientele" and the "second chance clientele" (defined in greater detail subsequently) therefore constitute high

priorities for new public investments in open learning. Unfortunately, if aggregated together, the recent major initiatives in open learning and non-traditional study are also primarily serving the same middle and upper middle class clientele, and not new clienteles in need. There is a glaring need for effective open learning initiatives to serve "disadvantaged" and "second chance" clienteles.

B. The Status of Research and Innovation in Open Learning

Until higher education professionals and policymakers in foundations and government began to take an interest in at least some aspects of open learning, the system of institutions and students operated relatively free from scrutiny by either the public or the research community. Moreover, the very vastness and diversity of the system was a barrier to generalizations or easy research. For example, with 10,000 to 20,000 proprietary schools and countless employer programs without record-keeping, attempts to describe the universe or even individual sectors within it were of necessity incomplete.[6,7]

(1) Theoretical and Empirical Strands of Research

In the last several years of burgeoning interest in the field, two strands of literature have begun to form in their early stages. First are a series of theoretical books and articles on the philosophy and potential for open learning. While these do not constitute formal research efforts into the operations of the open learning system, they do lay a

foundation for debate and discussion about its development.[6]

The second strand, systematic empirical research into the open learning system, is still in its tentative stages. One tack has been surveys of current and potential learners and their needs. For example, attempts have been made to gauge the participation rates and interests of various adult groups in the population through nationally-representative samples. Similar surveys have been conducted in Massachusetts, Colorado, and California.[8,9,]

Another type of study has been of one or another individual segment in the open learning system. For example, the U.S. Office of Education is in the process of surveying proprietary schools, as has Massachusetts. New York and Massachusetts have surveyed employer education programs; NCES has for a number of years published statistics on extension programs;[11,12] and the Department of Labor has sponsored studies of union apprenticeship programs. But these kinds of surveys have focused on different issues and the data is generally not comparable in time or format among them.

An effort in Massachusetts to analyze the continuing education system and research for planning of the open learning network constitutes the first "system-wide" approach to empirical rsearch in open learning.[13] In these studies comparable data was sought across each of the segments of the open learning universe and implications for coordination and expanding access were made on this basis. Empirical studies with similar focus have been started in several other states.

These research efforts notwithstanding, very little is known about the complex of open learning institutions and students. Compared to the magnitude and diversity of the adult open learning universe and to the subtlety and complexity of the issues involved, research has just begun to scratch the surface. Documentation about the open learning universe of institutions who is participating, and in particular, what the effects of the various strategies are, simply does not exist in adequate form. Whatever wisdom has been gained about open learning is in large measure "oral history," lacking in systematic rigor.

In some ways, this lack of analysis has been a fortunate strength of the system -- the needs of the clients were served without adherence to outside standards or pressures set by professional educators. The important guiding principle was to "get the job done," i.e., to meet a particular educational need identified, rather than to self-consciously "innovate."

But lack of data about such a dispersed and decentralized system of open learning has its distinct disadvantages. As we shall see shortly, design of a coherent strategy for research or development in the system is severely hampered by the current lack of a research knowledge base. In addition, the lack of communication between the several sectors of the adult open learning universe has inhibited the dissemination of lessons from experiences from one sector to another. While training personnel in firms, proprietary school directors, manpower program directors and others each have their own professional organizations which pass on ideas and effects of trial and error in their own organizations, minimal communication

occurs among these groups.

Perhaps the most blatant lack of communication is between the non-collegiate open learning programs that have been serving "nontraditional adult learners" for years, and the newly-interested traditional higher education community itself, where relative ignorance about (or a disposition to ignore) the wealth of institutions and adult participants in other sectors of open learning persists. Such lack of coordination means that each sector may have to develop techniques for dealing with various clientele groups, etc., which have already succeeded in other sectors of the adult open learning universe.

Again, it must not be forgotten in planning open learning research investments that the total open learning activity in traditional higher education institutions constitutes less than 25% of the adult open learning universe, and that nearly all of that is the traditional continuing education programs -- the new recent highly publicized nontraditional study movement constitutes less than 1% of the total effort.

(2) Innovations in the Adult Open Learning Universe

While explicit foundation or government agency funding of demonstration and dissemination is fairly recent, innovation in the adult open learning universe has always existed. As described briefly in the previous section, the flexibility of institutions and their sensitivity to adult preferences and needs has produced many nontraditional forms of open learning. A typi-

cal urban example: the competition for adult evening enrollments among Northeastern University in Boston (which has served adult needs for nearly fifty years), continuing education programs in the state and community colleges of Massachusetts (which have experienced a recent growth), has quite clearly led to innovations in branch campuses, flexiblity in hours, new subject offerings, adjunct faculty, credit by examination, credit for life experience, independent study, and other variations on the classical full-time day model of postsecondary education.

Further, the military has had one of the most rigorous experimental programs in education with effective use of a variety of technology and programmed instruction formats. Particularly important is the fact that "controlled" experimental situations have been set up, so that the long-term effects of different techniques could be traced on the participants. Such systematic research is non-existent in the higher education nontraditional programs and should be a first priority.

Proprietary schools, because they have succeeded or failed in the business world on the basis of their ability to serve their students at reasonable cost, have also been far more attuned to adjusting the educational process to adult needs than has traditional higher education. Changing labor market needs and interests of students create a competetive, consumer-oriented marked for these schools -- particularly in such fluctuating occupations as computer programming, for example. Turnover rates among proprietary schools have been as high as 9% a year in the Boston area in recent years.[14]

(3) Innovations in Colleges and Universities

Innovation in colleges and universities as open learning makes inroads into the mainstream of traditional education is often simply an attempt to incorporate some of the conventional operating characteristics of other providers in the pre-existing continuing education and adult open learning universe. For example, efforts of the agricultural extension service to reach dispersed and far-flung rural population have been adapted in new programs, either through mediated or concentrated teaching-learning formats, but suddenly are referred to as "innovative open learning" when they appear in traditional higher education. Similarly, media/correspondence formats have been used for years in employer-based education and in proprietary schools and are by no means the dramatic new efforts they at first appear to be. Other developments in open learning in higher education, such as large scale broadcast technology (closed circuit T.V., computer-assisted instruction and programmed cassette learning are far more advanced in employer based education. The main reason much of open learning "innovation" in traditional higher education institutions appears to be "new and innovative" or "nontraditional" is that higher educators are typically unaware of what has been going on for years of the other sectors of the adult open learning universe.

Information and referral, counseling, and alternative forms of awarding traditional degree credentials are unique to the approach which higher education is bringing to open learning. Characteristically, however, it appears that these innovations are now supported by foundation or government

money only in traditional higher education institutions. Other sectors should receive much more attention in future research investments.

Such a bias in development and innovation funding is unwarranted in the current open learning system. While pre-existing efforts such as employer and union programs, proprietary schools, manpower programs, the historical extension and continuing education activities and others have previously innovated in the counseling, referral and degree granting areas, the reason probably lies more in the lack of outside stimulus than in lack of ability or willingness. In each of these areas, some outside subsidy is required to stimulate the organization to go beyond what its client is directly willing to pay for; this is true of higher education institutions as well as of nontraditional institutions.

Current patterns of innovation within the higher education segment of open learning have three disturbing characteristics:

-- fast-changing fads and fashions with little permanence or dissemination of new approaches;
-- adherence to the ideas of professionals vs. the needs of adult clienteles or broader social objectives;
-- foundation and government support of institutions (supply) rather than of adults (demand) in their pursuit of new opportunities.

Typically, there is great fanfare and attention given to a "new" departure and innovation in its early stages. But after several years the

interest of the profession has been captured by other programs and often the program erodes if the innovative program director leaves. If outside funding is terminated the new approach is more than likely to be dropped. Without evaluation of the project and wide dissemination of its results, the lessons learned will have minimal effect on other institutions or segments of open learning.

The bulk of "open learning" innovation in the higher education sector has been motivated and driven primarily by the conception of the education profession of what would be interesting to do, rather than by a perception of social priorities or client needs. Often considerations such as the glamour of the project will overwhelm pragmatic considerations of its utility for extending access or advancing the field. This occurs because very rarely are explicit statements of the objectives of the innovation required in broader terms than technicalities of the project itself.

Funding for research and experimentation in open learning in the future should:

-- be much more attuned to social priorities, clients' needs (as the potential clientele themselves see them not as educators perceive them);
-- reflect a pragmatic concern for useful and desirable innovations which may not be the current fad;
-- have built-in evaluations linked to the social objectives and client needs being served;

-- and should concentrate on subsidizing demand initiatives and consumer needs.

Finally, the bulk of funds for innovative programs is directed at innovation in the supply side of the system: institutions per se. While such an emphasis results from implicit decisions by policymakers most familiar with the institutional side of open learning, it may not be the most appropriate stimulus for responsiveness in the system. While such an approach might be effective in traditional higher education where consumer pressure is less strong, in open learning variations in demand among consumers have in the past proved to be effective in stimulating certain fundamental innovations in the system.

(4) Limited Research on Adult Clienteles, and Limited Innovation to Serve Adults of Lower Income, Education and Job Level

Based on the limited empirical research to date on clientele needs, some things can be said about how adults currently pursuing open learning, about apparent barriers to learning , and about stated perferences for open learning formats. This basic factual data helps clarify the nature of adult open learning at present and needed new directions.

For current continuing education students, it is apparent that although students are interested in more counselling and credit for experience, they are not strongly interested in television or correspondence, home study options.

Both men and women students are interested in more courses of an

academic and professional or graduate nature: 58% state they would use courses if more were offered at the professional or graduate level. 54% would use academic courses if offered. Less interest is expressed in total in other course area: 50% of women state they would use social and community service courses (36% of men) and 51% arts and crafts, cultural or personal interest (33% of men). Men express some interest in business courses (42% vs. 23% of women) and trade or technical courses (39% vs. 25% for women).

Greatest interest in program change is for counselling services and credit for experience. 61% of men and 67% of women state they would use more counselling services and 72% report they would utilize an opportunity to get credit for experience.

Of those married, 55% of men and 59% of women state they would go to a family center where programs for adults and children would be offered separately but at the same time and in the same building.

Moderate interest is expressed in an "open university" program (defined as expanded home television and correspondence) and in more branch or local campuses. 41% state they would use an open university program, 45% another branch campus.

Only 27% of men and 41% of women think more courses should be offered in work places and only 22% would be interested in longer class meetings such as on weekends.

Regarding apparent barriers to learning, respondents in a national survey were also questioned as to the reasons "keeping them from learning what they want to learn." For the total sample, cost (53%), not enough time(46%), don't want to go to school full-time (35%), home responsibilities (32%), job responsibilities (28%), and amount of time required to complete program (21%) are the most important reasons.

The groups underserved currently by programs perceive a different set of barriers, however. Women perceive cost as the greastest barrier while men perceive not enough time. Women clearly have time for the program but find family responsibilities and no child care as other obstacles. The less educated groups perceive cost, no information, low grades, too much red tape, and no transportation as more significant barriers than other groups. They find time to be less of a problem than the average.

For the general poulation, the results of a telephone survey of a sample of the Massachusetts population concur with the results of the data above for continuing education students. Greatest interest was expressed in credit for experience and traditional classroom courses; least for television, radio, or correspondence courses.[15]

	Great Appeal
Credits for knowledge on examination	44%
Courses at community learning centers	39%
Courses at state colleges	38%
Credits for life experience	32%
TV courses	18%
Correspondence courses	15%
Radio courses	11%

(5) Agenda for Research in Adult Open Learning

In Part Three of this paper six priority issues for research for adult open learning and for experiments to expand service are recommended. They are:

-- Extended postsecondary open learning opportunities through the utilization of existing resources and initiatives in the several sectors of the existing open learning universe;
-- Financing adult open learning: varied needs and approaches;
-- Open learning and the world of work;
-- Matching the needs of specific clienteles with the characteristics of specific teaching-learning modes and delivery systems;
-- Competence- and performance-based assessment and credentialing of learning outcomes;
-- Investment strategies for fostering adult open learning

Each of these six broad areas is developed in a chapter in Part Three and also in the working paper of the same respective title.

Before this agenda is considered in detail, however, an analytical perspective for thinking about open learning needs and developments is presented in Part Two. That perspective, combined with the factual background presented in Part One, serves as a point of departure for the research and experimentation needs analysis of Part Three.

References

1. Okes, Imogene E. Participation in Adult Education: Initial Report 1969, National Center for Educational Statistics, Washington, D. C. 1971, p. 19.

2. Nolfi, George, and Nelson, Valerie: Strengthening the Alternative Postsecondary Education System: Continuing and Part-Time Study in Massachusetts. University Consultants, Inc., Cambridge, Massachusetts, 1973. Vol. I, Summary Report and Recommendation, 142 pp., Vol. II, Technical Report, 936 pp. (A study funded by the Massachusetts Advisory Council on Education.)

3. Unpublished tables provided by the Educational Testing Service. Data from the Current Population Survey of May 1969.

4. Carp, A., Petersen R., and Roelfs, P. "Learning Interests and Experiences of Adult Americans," in Cross, K. Patricia and Associates, eds. Planning Non-Traditional Program: An Analysis of the Issues (San Francisco: Jossey-Bass, 1974).

5. Ibid.

6. Clark, H.F. and Sloan, H.S., Classrooms on Main Street, Teachers Press, New York, 1966.

7. See for example:

Bailey, Stephen K. and Francis U. Macy. Regional Learning Services: A Design for Educational Flexibility. Policy Institute, Syracuse University Research Corporation, January 1974.

Baskin, Samuel. Off Campus: Ways of Learning. Studies in Higher Education for the State of New Jersey. Dept. of Higher Education, State of New Jersey, December, 1970.

Benson, Charles S. and Harold L. Hodgkinson. Implementing the Learning Society. Jossey-Bass, San Francisco, 1974.

Cavert, C. Edward, ed. Conference Proceedings: first annual National Conference on Open Learning in Higher Education. State Univ. of Nebraska, Lincoln, Nebraska, January 1974.

Continuing Education for Adults. Syracuse University and ERIC/Adult Education Clearinghouse, Syracuse, January 1972.

An Open College for Pennsylvania. Office of Higher Education, Pennsylvania Dept. of Education, February 1974.

A Planning Prospectus for the Open University of the University of Wisconsin System. The Planning Task Force, Regents Statewide University, University of Wisconsin System, November 1973.

Bowen, Howard R. "Financing the External Degree," n.d. (mimeograph).

Cartter, Allan. Excerpt from the Need for a New Approach to Financing Recurrent Education, n.d. (mimeograph).

Council for the Progress of Nontraditional Study. Proceedings of Second Meeting. Aspen, Colorado, August 1974.

References (continued)

7. (continued)

Hodgkinson, Harold L. "Alternative Functions and Structures in Credentialing." Paper presented at 57th Annual Meeting of American Council on Education, San Diego, CA.1974.

National Advisory Council on Extension and Continuing Education. The Importance of Service: Federal Support for Continuing Education. Eighth Annual Report, March 31, 1974.

The Planning Task Force, Regents Statewide University, University of Wisconsin System. "A Planning Porspectus for the Open University of the University of Wisconsin System," November, 1973 (mimeograph).

Bondeson, William B. "The University of Mid-America." Presented at the Regional American Association for Higher Education Conference, May 1975.

Commission on Non-Traditional Study. Diversity by Design. Jossey-Bass, San Francisco, 1973.

Cross, K. Patricia and Associates (eds.) Planning Non-Traditional Programs: An Analysis of the Issues. Jossey-Bass, San Francisco, 1974.

Gould, Samuel B., and Patricia Cross (eds.) Explorations in Non-Traditional Study. Jossey-Bass, San Francisco, 1974.

Houle, Cyril. The External Degree. Jossey-Bass, San Francisco, 1973.

Smith, Peter. "Education for 'New' Students: How It's Done in Vermont," Carnegie Quarterly, Vol. XXI, No. 4, Fall 1973.

Recurrent Education: A Strategy for Lifelong Learning, Paris: O.E.D.C., 1973.

Minnesota Metropolitan State Colleges: an Alternative Approach to Higher Education. Workshop with addresses by David Sweet: "The past and future of MMSC"; and Douglas R. Moore: "Theory and Practice at MMSC". n.d. (mimeograph).

Honey, John C. and Terry W. Hartle. " A Career Education Entitlement Plan: Administrative and Political Issues." Educational Finance and Government Center, Syracuse University Research Corporation, Syracuse, New York, April 1975 (mimeo)

Kurland, Norman D. "Lifelong Learning Entitlement." The State Education Department, The University of the State of New York, Albany, New York, July 14, 1975 (mimeo)

Levin, Henry M. Post-Secondary Entitlements: An Exploration. Prepared for the Education and Work Program of the National Institute of Education. Center for Economic Studies, Palo Alto, CA, March 1975.

Levine, Herbert A. "Strategies for the Application of Foreign Legislation on Paid Educational Leave to the United States Scene." Prepared for the National Institute of Education Career Education Program, Department of Health, Education and Welfare, 1975.

A more detailed bibliography of material on Open Learning appears in Paper #9 in the series of working papers Appendix.

8. Becker Research Corporation, The Market for Continuing Education in Massachusetts, Boston, 1973.

References (continued)

9. Outreach and Occupational Education in Colorado, A Study Conducted for the Colorado Commission on Higher Education by the Academy for Education Development, September 1972, pp. 82-87.

10. Siroby, Frank R., The Need for External Degree Programs in California, Report No. 2, Commission on External Degree Programs, California State Universities and Colleges, January 31, 1975.

11. Weathersby, George B. and Nash, Deana, A Context for Policy Research in Financing Postsecondary Education, A Staff Report of the National Commission on the Financing of Postsecondary Education, Washington, D. C. June 1974.

12. Nolfi, George, Nelson, Valerie and Freeman, Richard, The Contemporary Role of Proprietary Institutions in Vocational Education in Massachusetts, University Consultants, Inc., Cambridge, Massachusetts, March 1974.

13. Nolfi, George, and Nelson, Valerie, Strengthening the Alternative Postsecondary Education System: Continuing and Part-Time Study in Massachusetts, Vol. II, Technical Report, 936 pp.

Plan for An Open Learning Network for Massachusetts. A series of eight research reports which served as detailed background and draft report text for the Governor's Task Force on the Open University in 1973 and 1974:

#1 Identification and Recommendation of Target Clienteles for the Proposed Open University in Massachusetts. Nolfi, George, Nelson, Valerie, Eaglin, Fulton, Miller, Mildred.

#2 The Implementation and Operation of an Adult Open Learning Entitlement Voucher Program: Analysis and Recommendation. Nolfi, George, Nelson, Valerie.

#3 Recommended Financial Structure and Operating Financial Analysis of the Proposed Massachusetts Open Learning Network. Nolfi, George.

#4 Recommended Development of Linkages in an Open Learning Network to Non-Collegiate Providers of Postsecondary Education: Proprietary Schools, Employer-based Education, the Military and others. Nolfi, George, Nelson, Valerie.

#5 Survey of Employer-based Education and Training Opportunities in Massachusetts Employers. Nolfi, George, Bush, James.

#6 The Network of Providers of Postsecondary Level Instruction in Massachusetts. Nolfi, George, Nelson, Valerie.

#7 Selected Bibliography on Aspects of Open Learning. Nolfi, George, Nelson, Valerie, Paynter, Christelle.

#8 Paper on the Pilot Program of Regional Educational Opportunity Centers in Massachusetts. Nolfi, George, Bush, James.

References (continued)

13. (continued)

A Model Regional Counseling Learning Resource Center. A Report to the Massachusetts State College System and the New England Board of Higher Education, Arthur D. Little, Inc.

An Inventory of Audio-Video Instructional Materials Available for Use in Higher Education. Conducted for the Massachusetts State College System and the New England Board of Higher Education, January 31, 1974. Arthur D. Little, Inc.

Testing the Feasibility of an Open Learning Center in Southeastern Massachusetts. September 30, 1974, Arthur D. Little, Inc.

A more detailed bibliography of materials on Open Learning appears in Paper #9 in the series of working papers. See for example:

Baskin, Samuel. University Without Walls. First Report. Union for Experimenting Colleges and Universities. Yellow Springs, Ohio, n.d.

Grayson, Lawrence P. "Costs, Benefits, Effectiveness: Challenge to Educational Technology", Science, Vol. 175, March 1972.

National University Extension Association. "Financing Part-time Students: The New Majority in Postsecondary Education", Special Report, Vol, I. No. 2, March 1974. National University Extension Association, Washington, D. C, 1974.

Palola, Ernest G. (Project Director). "Developing Cost Effectiveness Models for Postsecondary Education," project proposal. Office of Research and Evaluation, Empire State College, Saratoga Springs, NY, December 1973.

Annual Report of Vermont Regional Community College Commission Inc. Montpelier, August 21, 1974.

Becker Research Corporation. The Market for Continuing Education. Boston, March, 1973.

C. I. C. Study of the Non-Traditional Student. Report No. 2, "The Non-Traditional Student in Colleges of Liberal Arts, C. I. C. Universities." Iowa City, June 1973.

Edelstein S., H. Kreplin, L. Medsker, J. Ruyle, and J. Shea. Extended Opportunities for a College Degree: Practices, Problems, and Potentials. Center for Research and Development in Higher Education, University of California, Berkeley, November 1974.

Frandson, Phillip E. Higher Adult Education: Its Present and Future. Analysis and Projections based on Six Years of Program and Registration Data, 1960-1966. Assn. of University Evening Colleges, National University Extension Assn, Washington, D. C., 1967.

Gilford, Dorothy M. "The Non-Collegiate Sector: Statistical Sanpshots of Adult Continuing Education : Address presented at the 29th National Conference on Higher Education, American Assn. for Higher Education, Chicago, March 1974.

Knoell, Dorothy (Issue ed.). New Directions for Community Colleges. Issue on "Understanding Diverse Students", No. 3, Autumn 1973.

Kramer, John F. The Demand for Continuing Education among California Based Commercial Airline Pilots. Commission on External Degree Programs, California State University and Colleges, n.d. (mimeograph).

McCabe, George. Characteristics of Enrollees in External Program, Spring 1974.

References (continued)

13. (continued).

National Advisory Council on Adult Education. A Target Population in Adult Education: Report of the National Advisory Council on Adult Education. U. S. Government Printing Office, Washington, D. C., November 1974.

Presidential Committee on New Market Students. Report. University of Wisconsin System, January 1973.

Siroky, Frank R. The Need for External Degree Programs in California: A Summary Report, Report #17. The California State University and Colleges (in preparation).

Carnegie Commission on Higher Education. Less Time, More Options: Education Beyond the High School. NcGraw-Hill Company, New York, 1971.

Minnesota Metropolitan State College. Materials from the Individualized Educational Planning Course, October-December 1974. MMSC Coordinating Center, St. Paul, 1974.

"Planning Paper No. 1: Overall Design of the Educational Program" Experiment in Competency-based Education. The College for Human Services, New York, N. Y. 1973

14. The Contemporary Role of Proprietary Institutions in Vocational Education in Massachusetts. op. cit.

15. Becker, op. cit.

II. AN ANALYTIC PERSPECTIVE AND POINTS OF DEPARTURE FOR RESEARCH AND DEVELOPMENT INVESTMENTS IN ADULT OPEN LEARNING

Of prime importance in developing a strategy for fostering open learning is clarity about definitions, purposes, and objectives. As simple as this may sound, it is in fact a difficult and crucial step in the design of intelligent and effective investment strategies and one which is unfortunately often glossed over. Adult open learning which is so broad, diffuse and historically rich in activity of many non-traditional sectors, is only now beginning to assume a position of center stage. As a result, such clarity is difficult to derive. The terms of reference must be derived from general social objectives and needs.

The sources of new knowledge and promising new experiments must be carefully identified, particularly given the limited investment resources available in society. In addition, further research is needed beyond this paper (and its supporting working paper series) to help identify precisely the types of investments, and the types of moral and resource support that will be necessary in the long run to foster growth and reform in open learning.

Investment decisions must of course be made now and in the face of the available evidence, so the orientation of this chapter is the use of existing information and good judgment to identify the likely payoffs from alternative strategies. Existing data and patterns of

innovation can help to determine in a preliminary manner the most appropriate approach to fostering innovation -- one which will provide adequate stimuli for experimentation in the system while expanding access for new clienteles. But certain answers are not yet possible.

Several dilemmas and unresolved issues are confronted in designing a research and development strategy in open learning:

-- The current lack of information and research on what is going on makes it difficult to pinpoint where to begin, what is most important,etc.;

-- Given the newness of interest in open learning the social priorities for the system have yet to be clearly defined;

-- There is minimal agreement in any sector of public policy as to what constitutes an optimal strategy of research and development.

Hence, in this section an analytical perspective is presented as a point of departure for the research needs analysis which comprises part three of this paper.

A. Implications of the Lack of Previous Research or Coordination On a Research and Development Design

The lack of a coordinated strategy of research and the extent to which the issues are just beginning to be explored have been highlighted in a previous section. Entering a new field with so little prior research, it is difficult to know where to begin, what questions should

receive priority,etc. For example, before designing new programs to serve specific underserved clienteles, it is necessary to establish first, who is being served and who is not, by which institutions and which not, for what reasons, the needs and interests of these clienteles, the flexibility and responsiveness of existing segments of open learning and the research and development needed to improve access. Such a series of steps in the research have yet to be taken in a comprehensive and systematic way, and much of the discussion is still in speculative stages.

More empirical research and analysis is needed. Many initiatives have been funded on an experimental basis without being grounded on a solid base of empirical knowlege. Worse still, few have systematically been evaluated. Seminar participants in this project were unanimous in the opinion that funding agencies are too disposed to funding "demonstrations" without adequate attention to the systematic construction of a knowledge base about adult open learning providers, services and clientele.

Because the research community interested in open learning is still so small, there is little in the way of "collective wisdom" about what we know and do not know, about priorities for filling in gaps or about strategies of data collection, etc. It is clear that many of the traditional models of education and the subsequent research carried out on those lines are inapplicable to adult open learning, but new approaches have yet to be clearly defined and validated by the

research community. For example, the rationale for public support of education of youth in terms of social benefits to the country are not easily transferrable to the case of adults investing in their own job advancement. Similarly, while higher education institutions are fairly well-understood by researchers first-hand, the wide system of open learning -- proprietary schools, employer programs and others-- is still foreign territory for most educators and scholars.

One of the major purposes of the NIE seminar series was to bring together practitioners and researchers in the field of open learning to coalesce, if possible, current thinking about the important issues. It soon became clear that there was little in the way of shared knowledge and philosophy, beyond a commitment to "openness" in clienteles and techniques. As a result the major conclusions of this paper, while subscribed to in some measure by the participants of the sessions, reflect in large measure an overall perspective taken by the author.

Some excellent work[1] has already been done, but relative to the magnitude of the adult open learning enterprise and to the subtlety and complexity of the issues involved in this phenomenon, research knowledge is still primitive. The most basic documentation about what is going on in the adult open learning universe, who is participating,

and what the effects of the various learning efforts are, does not even exist in any substantial measure. To be sure, in selected instances, data are available, but one is constantly reminded in discussing the various issues raised in the seminars of the extent to which much of the field operates on simply the judgment and instincts of education entrepreneurs and education researchers.

One overriding conclusion that can be drawn from the seminars is that the adult open learning is an important area for a large and sustained and well thought-out research effort of carefully selected experiments and demonstration projects. Examples of the lack of knowledge abound, and a few will be mentioned here by way of introduction, with no attempt at representativeness or comprehensiveness, or indication of special importance. The systematic analysis of needed research appears in Part Three.

Judgmental interpretation from experience and reading permits intelligent statements about adult open learning but research on society's interest in adult open learning which would permit assessment of investments and benefits is quite sparse. Agencies that provide research funds for adult open learning, in the particular patterns of investment they have selected reflect de facto a research investment strategy that corresponds to their implicit or explicit perceptions of social priorities. Yet, good analysis of the premises underlying the particular investment strategies utilized by public and private

agencies in the field of open learning up to this point is not even available.

Given scarce resources, a better understanding of the existing resources and investments in open learning and an evaluation of the effects of various undertakings is esssential if the most effective use of new available resources or investments is to be determined.

B. Research and Experimentation Objectives in Adult Open Learning Should Be Derived From and Consistent With Social Priorities

Research and experimentation in adult open learning should at a fundamental level be determined by the social priorities and needs of the time. Too often educational research planning is a process which proceeds "from the bottom up" (that is, educators think of specific, interesting research projects to perform; these projects are then aggregated into some overall research strategy or purpose). The approach suggested here is quite the opposite.

A research strategy which is consistent with needs derived from an analysis of social priorities is a more sensible approach than a spontaneous, random and sometimes duplicative process. The net addition to knowledge from experiments recently completed or now underway will be rather less than it could be had a more systematic plan of implementation of experiments and research been undertaken. No organization should attempt to dictate how knowledge in a field should progress,

but the discretionary funds such research and development funding organizations have, when spent by those organizations, constitute (de facto, if not by design) a system of priorities and incentives that do much to shape the development of the field.

Duplicative and parallel research strategies sometimes have merit, but the question is what is the relative pay-off in such parallel developments? Will the greatest pay-off derived from duplicative innovation and change at the margin, or from investing those marginal dollars systematically in other entirely different research experiments or demonstrations?

Hence, one perspective of this paper is based on applying criteria of the utility of research relative to social policy objectives, rather than criteria based on particular biases or interests of education researchers. Some researchers and practitioners in the education profession may conceive of particularly exciting opportunities for research and innovation in open learning which are not favored by the broader conception of these papers. On the other hand, seminar participants were generally supportive of the perspective suggested here. In the following pages, an approach to determining priorities for open learning is developed. The public purpose of open learning investments should be to expand, through change in the several sectors of the adult open learning universe, access to open learning for underserved adult clienteles, and a broadened array of services.

C. Lack of Complete Consensus on Social Objectives for Open Learning

While open learning has been practiced for many years in non-traditional institutions such as firms and unions, the lack of a public spotlight on or occasion for public support of such activities has led to a general ignorance in the policy area of what open learning is or can be. Consequently there has been little discussion in the public forum of social objectives and priorities.

In contrast, the traditional higher education community has in the last ten years been subject to extensive scrutiny by the Congress and the competing interests for government funds. Questions of access, relationship to the labor market, rationales for student vs. institutional subsidies have all been discussed many times, (even if not resolved) in public debate. The federal role in education has been drawn ever more precisely in the last few years.

Such a situation does not exist for adult open learning. Most people do not know the parameters of the system, why people participate, what, if any, benefits accrue to society, operational characteristics of institutions, etc. This lack of common understanding poses a particular problem in designing a research and development strategy. For example: What does the public really care about? In what is it willing to invest its money? And for what purposes? What is "the public interest" in this field of social policy? The social impact and importance of adult open learning and recurrent education is too

great to be left to chance or the professional interests of educators. But without explicit guidelines from public debate, there is little guidance for priorities.

It is apparent that academic, political and social strategies and purposes must all be the subject of additional research in order to clarify the goals for fostering expanded adult open learning. In the absence of such previous work, however, a tentative list of four major objectives for open learning are put forward as an underlying theme throughout the remainder of this paper. They are:

-- extension of access to open learning for currently underserved clienteles;
-- taking the consumer's point of view in designing open learning;
-- better coordination and utilization of existing resources and avoidance of duplicative services;
-- improved responsiveness to labor market, economic and social dependency needs.

Each of these is elaborated in the following sections as the analytical perspective and points of departure for Part III are developed here.

D. Purposes and Strategic Objectives for Open Learning

Adult open learning encompasses a wide range of open learning activities both in terms of the diversity and numbers of adults enrolled,

and the diversity of institutions and organizations providing education. As such it impacts on a number of social and economic functions of concern to policymakers. The retraining of manpower in the face of technological change and shifts in skill requirements, the opportunity for and access to education by those who are disadvantaged in the society but would like to upgrade their standard of living, the provison of opportunity to learn for many adults who previously did not lack the will but faced certain structural barriers (geography, time, money, etc.) are but three examples of high priority purposes for open learning. The answers to questions like "for what purpose should open learning be fostered? For whom? and At what cost to whom?" must be found in relation to these larger social purposes.

Too often the focus of interest in the education community itself is on the reform of traditional higher education institutions to institute "non-traditional" types of programs. In this narrow view of open learning, the purposes of government financing would be simply to reform traditional higher education, whether it be through service to "new clienteles" or through new techniques of teaching/learning or delivery modes. Clearly, while these concerns are important to be considered in a research and development strategy, they should not fundamentally determine the direction and scope of support for open learning. They are but a part of the broader context.

(1) Increasing Access for Underserved Adult Clienteles

One social purpose for open learning emerges ahead of others: access for previously underserved adult clientele. Given the current orientation of open learning on the middle and upper middle classes, a concerted effort must be taken in research and development strategies, as well as through other means, to encourage greater participation of other groups in the population. It is adults at the lower end of the income, previous educational attainment and job status scales who presently have disproportionately low participation rates compared to their expressed needs and interests. The most useful categorization of clienteles is according to the extent to which their open learning needs are now met by existing services and existing providers, and for those who are not now being well-served, by their particular needs.

Alternative investment in expanded open learning can then be assessed in terms of clientele service criteria. This type of definition of clientele assists in the analysis of the pluralistic modes of financing needed and the way in which the diverse array of resources in the adult open learning universe should be used.

Two groups in particular (defined earlier[2] and endorsed by the seminar on clientele needs) should be accorded priority in new directions in open learning: the "Disadvantaged" and the blue collar "Second-Chance" clienteles.

The first group, the "Disadvantaged ", includes people who for one reason or another have a particular problem relevant to their socio-economic position and to any open learning which they might undertake. This group includes minorities, those of low socio-economic status and job skills, the unemployed, those with language difficulties, physically and emotionally handicapped, and others. These people need financial aid, counseling, remedial education, and other special help to take advantage of education as adults.

The second group, the "Second-Chance" clientele, includes people who typically have a considerable degree of skill manifested in steady employment, be it blue or white collar. A barrier to their further education is the lack of formal academic credits or certification for the knowledge and skills that they do have. Therefore, one of the great needs of this group is certification of skills and conversion into the academic coin of credit.

Group I, the " Disadvantaged", currently has a high social priority in a number of social programs and should be accorded help as a social investment here as well. However, this group is also more likely to be expensive on a per capita basis to educate, counsel and place in jobs through open learning. Group II, "Second-Chancers", can be aided in a cost-effective strategy of investments in certification for what they know and additional education for a degree or other result. Extensive remedial or motivational counseling or education is unnecessary for this group, and thus the overall cost of a degree is substantially less.

Hence, new modes of service delivery and overall state and national policy planning directed at meeting the needs of underserved constituencies of adult learners constitute a priority.

Such new models of clientele-oriented service delivery will require adaptation of traditional institutions as well as utilization of the resources of the other provider sectors in the adult open learning universe more typically focused on noncredentialed adult students. State and regional policies and developments in new modes of financing, credentialing and measurement, in new ways of providing counseling services, in new ways of assessing quality through accreditation, and in new ways of bringing together existing sources will all be required. These themes are developed further in Part III, Chapter 3 of this paper.

A third clientele group exists which is already making substantial use of the existing opportunities and continued education for open learning. Typically, this group is middle and upper middle class on the measures of income, previous educational attainment and job status.[3] For many in this group, there is a direct monetary return through salary upgrading from additional educational pursuits. Moreover, for many in this group, various education subsidy plans are available, and their own individual resources (i.e., discretionary income) for investment in continued education are usually considerable. This group is therefore not a priority for new investment.

Open learning's claim to public resources must be a vehicle permitting

the further achievement of the American Dream through the removal of limitations to opportunity created by the barriers to access to education for youth and for adults. The purposes of broadened access to open learning are consistent with the ideal of each American being able to pursue his or her potential to the maximum.

(2) Taking the Consumer's Point of View in Designing Open Learning

One of the major weaknesses of innovations in postsecondary level education to date, and to some extent in the broader field of adult open learning as well, has been the failure to initiate those innovations first from a client service point of view. Typically, innovations are begun as a result of the initiatives of education professionals who happen to be particularly entrepreneurial in their orientations. There is no intent in these statements to question the motives of those innovators, indeed they are to be commended, but simply to state that systems are not often specifically designed to respond to the needs of the students or to variations in learning styles as seen by the client himself.

The implications of a client-orientation are that fundamental questions will be asked about the impact of open learning on the individual and accumulated effects on society as a whole. These might include, for example, the opportunities of adults to fit education into their working and family life, particular limitations on or opportunities with the learning styles of mature adults, effects on the labor market of expanded open learning

services and meeting the desires for many groups in society to differentiate from the mass and "do their own thing."

Innovations should not be judged as in the past, on how much they differ from traditional practices, but rather by their utility to clienteles. Any form of expanded learning services, no matter how mundane it may appear to be, can indeed be a very significant innovation in open learning. For example, while standard course content and format offered at remote locations (e.g., in-plant) convenient to previously underserved adult learners may not be regarded as a worthy and dramatic innovation by higher education innovators, it is a powerful way for modest investments of funds to expand open learning services to new clientele groups.[4] Interestingly, the clientele so served would regard such an innovation as highly significant, as would many educators in sectors of the open learning universe other than higher education.

Further, different people have varying definitions of what "open learning" signifies in terms of clientele and delivery systems. Often one definition by a particular clientele group is different from the definition of a particula group of educators. The former group recognizes needs and barriers it perceives in the existing system of education which make it less serviceable to its members, and the latter envisions an exciting opportunity for an "innovation" conceived by professionals within the field of education.

The bulk of the innovation which has occurred in "open learning" in the higher education sector of the adult open learning universe has been motivated and driven primarily by the conceptions of the education professionals. Such

innovation has often been conceived and pursued because it is desirable and interesting in terms of its benefits to the professional careers of the individual innovators rather than in terms of an analysis of client needs and attempts to meet those needs regardless of the glamour or ordinariness of the innovation. This is less true in other sectors of the adult open learning universe (for example, schools, employer and union-based programs, etc.).

Hence, from an adult client point of view, the technical elegance of an open learning design is less important by far than how it meets his fundamental concerns. For example, have the innovators assessed projected changes in the composition of the labor market and the implications of those changes for educational needs and practices?

(3) Utilizing and Coordinating Diverse Providers of Open Learning Services

In a time of fiscal stringency in education such as the present, it is important that research, development and experimentation in open learning should reflect the most cost-effective strategy possible. In the past, higher education programs have often pushed out of business existing private college continuing education programs or proprietary schools and placed on the public budget an obligation which private individuals would otherwise have paid for on their own. There is a danger that expanding open learning initiatives will do the same. Any strategy for stimulus of open learning should be targeted specifically on the students who need aid, the institu-

tional leverage points in the system, and build upon rather than replace adult open learning services currently available in the several provider sectors.

Federal intervention strategies must also remain sensitive to the delicate fabric of institutional structure in the several sectors within the adult open learning universe. While the central focus is maintained on the expansion of services to particular clientele groups that need them, leverage points in each sector may be quite different and any strategy should be sensitive to the particular operational patterns which characterize that sector and its responsiveness to interventions. For example, the traditional higher education sector operates with a set of objectives which differ substantially from the profit-making proprietary school sector, and from the employer education sector, the union education sector, the military, and historical extension and continuing education sectors.

In this connection, it is important to note that open learning as a concept is much more readily accepted in sectors of the adult open learning universe other than the traditional higher education sector. Employer-based education (including union and military efforts), for example, is usually quite pragmatic in its response to the needs of clients. In this sector, and to some extent in the proprietary school sector as well, a perception of client needs is the starting point for the design of educational programs. In contrast, in the traditional higher education community, while client needs are usually considered and discussed, the driving force for innovations and experiments stems not so much from a clientele service objective as from

the professional disposition of educational entrepreneurs to bring about change.

Hence the existing vast array of providers of open learning services (not just traditional higher education) should be addressed in research and experimentation funding strategies -- both for reasons of effective use of resources, and because it may be in these other sectors that the greatest potential for advance exists.

(4) Responsiveness to Labor Market, Economic and Social Dependency Needs

Given the general orientation of adults pursuing open learning for job advancement, and given the changing needs of the economy, a focus on responsiveness to labor market conditions is a priority for open learning. In the 1970's and 1980's the number of new entrants to the labor force will decline proportionately while labor market needs continue to change. Economic shifts and redistribution of employment may therefore have to be born to a greater extent by the middle-aged worker.[5] The facilitation of mid-career change through education and counseling programs and coordination with existing labor market openings to meet the needs of employers and individuals should be a priority task of open learning.

Additionally, mitigating and alleviating the problem of social dependency is one of the highest social priorities. Many of the so-called "disadvantaged" adult populations have a high interest in the pursuit of educa-

tion to improve their employable skills and social condition. They should be aided to do so through expounded open learning services designed to meet their needs.

2. The Boundary Definitions of the Universe of Providers of Educational Services Used by Adults Should be Broadly Conceived

The conception* of the Adult Open Learning Clientele and the Adult Open Learning Universe used in this paper so far is broader than the traditional higher education, postsecondary education, or the innovative college spectrum. "Open learning is thus defined in terms of "providers" of open learning services, "modes of service," or "adult clientele" who are different from the traditional ones. Degree credit as well as noncredit learning is included. Importantly, the definition is not limited to "academic" learning. This broader conception is absolutely essential to the development of any sound research investment strategy in the adult open learning field.

Consider the range of types of programs and types of clientele which are within this definition. Open learning initiatives which deal with more traditional full-time day students are mostly excluded, but included is the whole spectrum of providers of educational services, ranging from adult

---

* In an earlier study, it had been argued that this array of providers in Massachusetts constituted de facto an unrecognized and unacknowledged "Alternative Postsecondary Education System" which is very different from traditional postsecondary education along dimensions of clientele, operating characteristics, financing, diversity, purposes and complexity. (See Nolfi, G.J., and Nelson, V.I., Strengthening the Alternative Postsecondary System, Continuing and Part-Time Study in Massachusetts.

part-time programs of traditional institutions and proprietary schools through employer and union-based formal and informal learning programs, private independent efforts of organizations and agencies and independent learning activities.

In terms of clientele, the focus of this paper is on adults over twenty-five years of age who do not consider being a student as their primary activity in life. Rather, their learning efforts, either formal or informal, are an effort pursued in addition to their job and family responsibilities. The more specific definition of clientele groups has been presented earlier.

Thus this paper does not deal with either the institutional providers or clientele in the traditional full-time-day-youth higher education system or its range of undergraduate experimental college innovations.

Programs for adult open learners are numerous and varied, and may be roughly categorized into six categories:

-- Campus-based, part-time extention and continuing education programs (including adult programs of proprietary schools);
-- Institutionally managed external and correspondence or independent study programs;
-- Separate free-standing open learning programs;
-- Employer-based (including union and military based) programs;
-- Categorical social problem-solving programs;
-- Cultural-recreational programs.

The range of programs and services is elaborated in detail throughout this paper.

F. Dilemmas in Research and Development Strategies

In the last fifteen years, particularly, the federal government has fostered a wide range of research and development programs in the private and public sectors alike. At this juncture and reflecting on this experience, it is clear that policy makers have not come too far in understanding what an optimal strategy is and how it should be designed. Fundamental questions remain unanswered, such as: What is the effect of social research and development on policy decisions and on advanced in the field? How can dissemination of successful projects be accomplished? What general criteria should be applied in selecting research or development projects for funding?

A series of major issues of research and development investment stragegy in open learning remain unresolved. These are addressed in the final chapter, and research dirccted at improving understanding of the utility and effect of alternative strategies of investment in research and experimentation is suggested.

References

1.

1. (continued)
Carnegie Commission on Higher Education. Less Time, More Options: Education Beyond the High School. McGraw Hill Company, New York, 1971.
Minnesota Metropolitan State College. Materials from the Individualized Educational Planning Course, October - December 1974, MMSC Coordinating Center, St. Paul, 1974.
"Planning Paper #1: Overall Design of the Educational Program" Experiment in Competency-based Education. The College for Human Services, New York, N.Y., 1973.

2. Nolfi, George J., Nelson, Valerie I., Eaglin, Fulton, and Miller, Mildred, "#1 Identification and Recommendation of Target Clienteles for the Proposed Open University in Massachusetts", Plan for an Open Learning Network for Massachusetts, draft research report for the Governor's Task Force on the Open University, University Consultants, Inc., Cambridge, Massachusetts, 1973 and 1974.

3. Nolfi, George and Nelson, Valerie I., Strengthening the Alternative Postsecondary Education System: Continuing and Part-time Study in Massachusetts, University Consultants, Inc., Cambridge, Massachusetts, 1973.

4. Ibid., Vol. II, pp. II-613 -- II-622.

5. Nolfi, George J., Bush, James W., Nelson, Valerie I. and Fischer, Stephen J., Policy Planning Paper on Career Education Services as an Intervention Strategy in Mid-Career Crises, University Consultants, Inc., Cambridge, Massachusetts, 1975.

PART THREE

PRIORITIES FOR INVESTMENT IN RESEARCH AND EXPERIMENTATION

Based on the perspectives outlined thus far in this paper, and on the analysis of existing research data and experience of innovators, Six Priority Areas for research, experimentation and evaluation investments in adult open learning have been identified. Each of these will be treated separately in the following chapters in Part III. The six are

-- utilize existing resources most efficiently, conceive of services rather than institutional types for efficiency, lack of duplication which is a severe problem here, avoid re-inventing the wheel in terms of both research and demonstration

-- start from base of client needs -- in particular, focus on Disadvantaged and Second-chance clienteles

-- experiment with diverse financing schemes, but focus on demand financing

-- focus on relationship to world of work

-- face squarely the issue of credentialling

-- consider in great depth the responsiveness of institutions and resultant strategies for research and demonstration, open learning.

I. EXTENDED POSTSECONDARY OPEN LEARNING OPPORTUNITIES THROUGH THE UTILIZATION OF EXISTING RESOURCES AND INITIATIVES IN THE SEVERAL SECTORS OF THE EXISTING OPEN LEARNING UNIVERSE[1,2]

In this chapter, a brief description of the available resources for adult open learning will be presented. The bulk of the chapter deals with guidelines for investment in research and experimentation which will effectively utilize existing open learning resources.

A. The Broad and Diverse World of Existing Resources for Open Learning

Adult open learning in the United States involves an astonishing diversity and number of providers of open learning services (institutions and organizations) and of students. It has existed for many years and has grown rapidly in recent years. While the experimentation of traditional higher education with new adult clienteles and new open learning approaches gained a great deal of attention lately, learning in "non-traditional" settings such as in the workplace, in proprietary schools, in employer-based and union-based programs and apprenticeships, in the military, and in the home, constitutes, in fact, a much larger proportion of the adult open learning universe than does traditional higher education (approximately 75% vs. 25%), with nearly all of the 25% in traditional extension and continuing education programs and less than 1% in the new, highly publicized non-traditional" innovative collegiate programs.

Sound federal policy of intervention to expand adult open learning must recognize, therefore, that the present postsecondary instructional capacity for adult open learning is large and varied but excessively fragmented and unconnected. Innovations in one sector of the adult open learning universe find their way into other sectors only by accident. Further, beyond the barriers to communication and exchange between the sectors, there are limits to the responsiveness of each sector. An increased focus on learning outcomes and the comparability of the knowledge obtained in a variety of open learning methods and sectors is changing this orientation.

As discussed earlier, open learning should be conceived as an activity in which adults pursue, primarily but not exclusively, post-secondary level, credit or non-credit, non-full-time "course" or other kinds of formal educational activity. (Innovations in traditional undergraduate curriculum for traditional undergraduate students are not included in this definition.) Hence, open learning is defined by a clientele, and by modes of learning (some new, but some very old and established), all of which are different from the traditional full-time-day college study. Also included is informal learning in structured or unstructured self-directed learning environments such as the job/work experience, travel, or independent reading approaches. Given this conception, it is evident that open learning or "non-traditional study" as an activity initiated and carred out by higher education organizations and institutions is a definition so narrow as to be relatively useless.

Five groups of resources may be defined within the adult open learning universe:

Group 1: Institutions and organizations whose primary purpose is the provision of educational services (traditional higher education institutions, other postsecondary institutions such as proprietary schools and hospital schools, and public school systems).

Group 2: Employment-based activities which constitute formal education programs (employer-based education programs, and activities such as agricultural extension service, trade and professional association programs, the military, unions, and other organizations).

Group 3: Cultural organizations whose primary purpose is not the provision of educational services per se, but who provide such services (libraries, museums, historical societies, special interest groups, theater and cultural groups).

Group 4: Community and/or social groups and movements (YMCA's, YWCA's, community centers and organizations, religious groups, social movement groups, retired persons' organizations, home and family).

Group 5: The media (including television, radio, newspapers, magazines and various formal and informal publications, audio and video cassettes, and movies).

B. Guidelines for Research and Development Investments Which Will Yield Greater Utilization of Existing Resources

A research and development strategy in open learning should foster greater utilization of existing resources, with the following key guidelines:

-- consideration of strengths and unique capabilities of each of the sectors of open learning;
-- development of linkages among institutions, clienteles, and government and professional agencies
-- incentives for consumer and producer responsiveness;
-- development of programs in open learning sectors other than higher education
-- evaluations and comparative analyses of parallel programs;
-- efforts toward leverage of initiatives, innovations, and experiments underway

(1) Consideration of Strengths and Unique Capabilities of Each of the Sectors of Open Learning: Priority on Sectors Other than Traditional Higher Education

Priority for federal funding of new initiatives should be placed on those dealing in sectors other than the traditional higher education sector (primarily because recently so much emphasis has been focused disproportionately on initiatives in the higher education sector). Even more important, priority should be given to initiatives that are

directed at rectifying weaknesses to the extent to which the natural responsiveness of the existing array of adult open learning services meets the needs of many clientele groups reasonably well while serving the needs of certain target clienteles which have a high social priority quite poorly.

An excellent example of the need to utilize all sectors for experiments in open learning is provided by educational technology, which provides a considerable potential for the expansion of adult open learning. For the research investment in technology-based expanded adult open learning, a new emphasis should be placed on computer-based modes, as these have received noticeably less emphasis than broadcast-TV-based modes. Yet, in industry (particularly in the computer industry), computer-based educational efforts have made striking advances of which many educators are unaware.

While much attention to date has focused on the use of broadcast types of media, evidence is beginning to accumulate that audio and video cassette techniques and, even more, computer-based educational systems involving inexpensive remote home terminal mini-computers which will be available soon at competitive prices offer great potential. Two points are illustrated by this example. First, the fad of broadcast T.V. experiments may not in the long run be the most promising educational technology option. Second, sectors of the open learning universe other than higher education are the most likely to achieve major breakthroughs in educational technology.

(2) Create Linkages Between Providers

A fundamental strategy question for federal policy for open learning is whether expanded open learning should come through totally new initiatives (predicated on the assumption that the existing resources are insufficient to adapt to the task at hand) or through a networking of existing resources and the creation of linking structures. The former approach results in new institutions (such as UMA or Empire State). The latter approach is based on the premise that the most effective way to expand open learning will be through (a) the improved linking of existing providers of educational services in a loose "network"; (b) the design of specific linking services which do not exist (such as community-based counseling centers); and (c) the specific targeting of expanded and new efforts on clientele who currently have low participation rates in the system. This latter approach (sometimes referred to as the Massachusetts model),[3] should be the basis for research investment strategy.

A better understanding of the patterns and factors of responsiveness and adaptation in the various provider sectors to various open learning client group needs is required so that selective investments in each sector can be made which will foster linkages. The several sectors respond and adapt in different ways, and their diversity is desirable from the learner's point of view.

Given the need to emphasize initiatives which foster linkages between existing resources and effective utilization of them, particular

attention should be paid to retaining the differences and independence of the several sectors within the open learning universe, since those differences have been developed in a manner tailored and responsive to the needs of particular client groups.

Efforts to improve linkages and increase the comparability of the learning outcomes in the different sectors must be approached with caution so the unique characteristics of each are not sacrificed in the process. A good example of this is proprietary schools which, by virtue of their decision to remain small and specialized, are often able to educate people effectively in various fields at a lower cost than can public vocational schools or community colleges. These latter schools operate on a wholly different set of premises ranging from comprehensiveness of services provided to tenured faculty. To force proprietary schools to change their character and become more like traditional junior colleges would be undesirable. An example of a potential problem in these efforts is the emphasis on converting learning in a variety of sectors in traditional academic credit. It is absolutely wrong to view traditional academic course equivalent credit as the only, or even the most, appropriate measure of learning outcomes. While there are some attractive client service aspects of this trend, it also carries with it the risks of homogenization of a desirably diverse set of approaches.

An important linkage strategy for funding agencies is to work with state agencies through a "brokerage" type of approach (e.g., "state or county agent") to specifically address the question of linking together

and building upon existing resources. Technical assistance should be made available to institutions and states to assist them in reaching out to client populations not now well served and in relating to other sectors in the universe. Brokerage undertakings led by individuals knowledgeable in the several sectors of the open learning universe within a given geographic area should be fostered.[4]

To maximize the effectiveness of using existing resources to meet particular target clientele groups' needs and to enhance the use of each sector in terms of its strengths, a better understanding of the variables which effect participation rates of client groups in various types of educational experiences is needed. Personnel exchange and greater communication among innovators and program managers in the several sectors would also aid in this area. Finally, entry systems for adults of low income and low previous education are needed, such as free-standing counseling centers.[5]

In addition to the linking of existing providers of educational services, better linkages between the sectors of the open learning universe and other aspects of the social order (e.g., the regional economy and labor market) should be developed. This is best done with reference to local labor market areas.

Contingent funding arrangements should receive priority attention. These arrangements are predicated on effective utilization of existing

resources rather than simply on the writing of an innovative proposal by an educational entrepreneur in a single institution.

In addition to funding experimentation and research in open learning sectors other than traditional higher education, competitive funding strategies should be adopted where parallel experiments are funded in, for example, a union, a proprietary school, and a traditional college. In such a case our understanding of the relative ability of different sectors to do different open learning jobs can be refined.

(3) Strengthen the Market Character of the Adult Open Learning Universe and Create Incentives for Consumer and Provider Responsiveness

In designing a strategy to build on the existing array of resources, attention must be paid to the natural tendencies and spontaneous processes which have led to the historical development of the adult open learning universe and which govern its response patterns. Such a point of view leads to an analysis of the projected impact of policies and decisions in terms of the behavioral incentives they create for consumer and provider response to social objectives for expanded open learning.

As mentioned earlier, the existing adult open learning universe unquestionably functions as a "market," albeit an imperfect one. As such, a better understanding is needed of the extent to which this market is supply or demand driven, how information on the sources of learning opportunities are made available to consumers, how quickly providers

respond to new market demands, how market demands can be better articulated, how small demands can be aggregated, the pattern of incentives to respond to demands which exist, and the factors determining success.

The vast array of open learning activities has developed primarily as a function of the market demand of constituent groups for educational services of various kinds. This is true whether one considers continuing education programs in traditional higher education sectors, or (even more so) in other sectors of the universe. It is only in the newest spate of innovations in traditional institutions to "expand open learning" that one sees a system which is overwhelmingly supply driven.

Hence, viewing the entire open learning universe, it is readily apparent that the vast bulk of adult open learning services has grown from demand pressures, whereas currently most of the attention of innovative educators is being focused on supply driven initiatives which end up serving relatively small numbers of clientele. This is not to belittle those initiatives, but to argue that they must be seen in perspective. In most of the writings and conferences on "open learning" this small new set of initiatives in higher education institutions overwhelmingly dominates the discussions, yet these new initiatives serve perhaps less than one percent of the total adult open learning clientele (note that extension and continuing education programs enroll only about one-fourth of the total clientele).

Intervention strategies must inevitably be based on assumptions of facts about the dynamics of operation of the system which those strategies are seeking to effect. Thus, a better understanding of the dynamics of the adult open learning market and of the several sectors in that market should be developed. Understanding of the diversity and responsiveness of the several provider sectors through this market permits federal strategies for fostering expansion of open learning services to be based on natural response patterns within the market, and on identified gaps in the array of services now being provided (by the market spontaneously) as compared to the necessary array of services dictated by social priorities and clientele group needs.

Intervention strategies should build on the unique strengths of each provider sector in the market independently, and focus on attending to unmet needs and avoiding pressures towards homogenization or integration of the sectors. Moreover, since the overwhelming characteristic of the adult open learning market (in marked contrast to the traditional full-time-day higher education market) is that it is demand driven and operates as a market, initiatives which are based on such premises should be favored over initiatives seeking to build capacity on the assumption of a supply driven market.

The unique strengths and weaknesses of each sector's activities should similarly be taken into account. Innovations within each of the sectors as well as those that link the sectors together should be fostered by applying the criterion of responsiveness of those innovations to identified social needs and priorities.

The several sectors in the adult open learning universe are in fact designed to serve a somewhat different though somewhat overlapping purposes. A considerable orientation towards flexibility, adaptability, and responsiveness to social and latent consumer needs has developed in all sectors (in contrast to traditional full-time day higher education). This tendency is significant, and preservation of it should be a primary guideline for federal policy. Intervention strategies and experiments should be evaluated partially in terms of the extent to which they will stimulate a responsive, differentiated, market-oriented development of expanded adult open learning.

(4) Develop Open Learning Sectors Other than Higher Education and Focus on Target Clienteles

Since the constituency of providers and clientele for adult open learning is far broader than the traditional higher education community, a priority concern should be the funding of initiatives outside the traditional higher education sector (e.g., in collegiate extension and continuing education programs, in proprietary schools, in industry and labor, in special groups of government agencies, etc.).

A vast unexplored potential for research and innovation exists in the sectors of the adult open learning universe other than traditional higher education. In addition to individual initiatives to serve the target clienteles defined earlier, within each of the sectors, the necessity for innovations which achieve linkages between the sectors

and convert the "array" of adult open learning services available into a "network" of services available constitutes an investment priority.

Evaluation analyses of activities in the various sectors of the existing open learning universe would be helpful in the determination of the types of new initiatives needed. Often, new initiatives are started more becuase of the entrepreneurial zeal of a group of educators than because of an analysis of social needs and priorities. It is essential that investment strategy be derived from social priorities and needs. Hence, evaluation analyses of the existing undertakings throughout the adult open learning universe would help identify the extent to which various social priorities are being met. All new initiatives should have built in evaluations.

The monopoly of traditional higher education on degree-granting authorit academic accreditation, and on "legitimate" learning has historically been a force hindering the better use of existing resources for open learning. The striking fact, however, is that even given all of these severe constraints, a massive adult open learning enterprise far greater than the adult open learning activity within traditional higher education has developed in response to a social need which most of traditional higher education has never seen as its responsibility (extension and continuing education programs are the exception).

Within the higher education sector itself, there is work to be done in increasing the institutional responsiveness to adult needs.

However, much of the "open learning" discussion in higher education to date has been astonishingly exclusive in that it has focused around individuals and efforts which are "new experiments" to the virtual exclusion of the large and diverse and well-functioning sector of adult open learning which consists of traditional extension and continuing education programs in colleges and universities. It is essential to adopt a strategy of building upon the vast resources which already exist, while recognizing both that those resources have not completely done the job to be done in adult open learning, and that they have made major strides in meeting adult needs. Funding experiments in sectors other than traditional higher education is a priority.

A better understanding of the match between client group needs and the characteristics of various teaching-learning modes and delivery systems is needed. With that knowledge, expanded open learning opportunities can be tuned to unmet needs and not simply be a replication of traditional formal educational experiences, or a duplication in one sector of the open learning universe of what is or could be more easily provided in another sector.

(5) Comparative Analyses of the Several Sectors Within the Adult Open Learning Universe

Long-term longitudinal studies and case studies in the several provider sectors as well as basic documentation and better understanding of the role and activity of existing providers are essential to deter-

mining the gaps in existing services and in the existing private investment which should be met by publicly funded experiments and capacity building efforts. The relative advantages and disadvantages of different sectors within the AOLU to provide different services to different types of clientele groups needs to be explored. Client needs can thus be tailored to the capabilities of different providers. Dissemination is also needed so that the best practices and approaches learned in one sector can be transferred and rapidly adapted to the other sector.

Finally, to enable clients and potential clients to utilize the variety of providers of adult open learning services, better comparative information must be available to clients as to what exists. A typical adult in a typical metropolitan area is relatively unaware of the vast array of learning opportunities which are at his or her disposal. This is less true, of course, of better educated and higher income clienteles, who tend to utilize these resources more.

To implement the recommended strategy, analyses of the comparative cost-effectiveness of various approaches to achieving similar educational outcomes in the different sectors of the AOLU would be helpful in determining when existing resources can be most cost-effectively utilized to achieve a new end, and when an entirely new initiative is required.

Limited resources require that the cost-effectiveness of the alternative investments be evaluated. For example, for a given $.5 millinn

available, the relative result of making that investment in different options should be systematically assessed relative to the social priorities that drive the overall open learning investment program. What will be the comparable effect on access for priority target clientele? What will be the effect on leveraging other resources? etc.

(6) New Efforts Should Leverage Initiatives, Innovations, and Experiments Underway

The dissemination and application of initiatives which have been demonstrated to have constructively served the needs of target clienteles should be fostered through required built-in evaluations of new experiments. While some replication of worthwhile innovations and good ideas has occurred, scant attention has been paid to the formulation and design of initiatives and innovations in open learning specifically for the purpose of achieving substantial leverage from a demonstration through dissemination and replication.

It is important to recall that existing adult open learning activities in the several sectors of the adult open learning universe constitute an extraordinarily large enterprise involving hundreds of thousands of adults. While new initiatives are often dramatic and striking in their impact and recieve a great deal of publicity and attention within the community of traditional educators, the magnitude of these innovations in comparison to the entire system and in comparison to the job that needs to be done is often quite modest. This is not to imply that the innovations are not worthwhile; quite the contrary. It

is meant to imply that more attention must be paid in the design of initiatives and to how these experiments can be maximally effective in stimulating and redirecting existing resources. The phenomenon of exciting undertakings being funded with demonstration funds and then terminating three years later when those funds run out is all too common. A deliberate plan for dissemination is essential.

Given the social objectives of serving adult clientele who are not now receiving adequate service, and given limited resources, a strategy to implement an incremental change nationally in the existing continuing education programs in traditional higher education institutions, could, in terms of numbers of population served, have a far more profound effect than a particularly striking experiment at one particular institution and location. Yet, the latter approach is most common. More attention should be paid to these strategic tradeoffs, and greater emphasis should be placed on incremental changes which have great leverage. To facilitate this, research on the impact of various kinds of innovations is needed.

A better understanding of the factors influencing the process of innovation in adult open learning in the several sectors of the adult open learning universe is needed so that criteria determining effectiveness can be developed. For example, the role of entrepreneurs, and the elements that affect the entrepreneurs' success or failure, should be examined.

From the perspective of any funding agency, it is instructive to note that if a group of educators from traditional higher education, albeit innovative ones, were called together and asked what kinds of innovations in open learning are needed, the suggestions they would present would probably be strikingly different from those derived from similar meetings of employer educators, proprietary school leaders, union leaders, librarians, or representatives or underserved target clienteles.[6]

Services to target clientele and on initiatives that stress linking of existing resources and increasing of the responsiveness of those resources, rather than on initiatives which emphasize the creation of entirely new resources should be emphasized. A pluralism of new resources in the nontraditional sectors of the adult open learning universe is needed. This pluralism is desirable from the standpoint of student choice, but more importantly, it is needed because different groups of adult clientele will be better or worse served by different types of initiatives in different sectors at different points in time.

New initiatives should be built out of existing programs whenever possible. In many fields, innovators tend to opt for the creation of new initiatives to meet new service needs rather than adaptation in existing patterns. There are occasions when this strategy is appropriate, but in many instances an alternative strategy of incremental change in

existing providers of services would work as well or better. Research on the effectiveness of these strategies will be useful in developing criteria for selecting projects to be funded.

The same is true with respect to the phenomenon of the tendencies of innovations to become rigid. A strategy of institutional renewal and redirection in the several sectors of the open learning universe will in the long run probably be a more constructive and effective strategy for bringing about permanently expanded adult open learning opportunities than will a strategy of new (often parallel) institutions (witness the failure of attempts to create totally new institutions in several states in the last two years and the success of changes built on existing institutions).[7]

Deliberate complementarity of initiatives funded should be designed. Given limited resources, initiatives should be planned in a deliberately complementary fashion and funding should be coordinated, to the extent possible, with other public and private agencies making investments and fostering adult open learning.

References

1. The material represented in this chapter is discussed in more specifics in the working draft: Nolfi, George J., "Paper #2, Expanded Postsecondary Open Learning Opportunities through the Utilization of Resources and Initiatives in the Several Sectors of the Existing Open Learning Universe", University Consultants, Inc., Cambridge, Massachusetts, July 1975; and the references therein.

2. Appendix: "Reference Bibliography on Adult Open Learning (keyed to working paper topics)", University Consultants, Inc., Cambridge, Massachusetts, July 1975.

3. Nolfi, George J. and Nelson, Valerie I., Strengthening the Alterna-Postsecondary Education System: Continuing and Part-time Study in Massachusetts, University Consultants, Inc., Cambridge, Massachusetts, 1973.

4. Nolfi, George J., Nelson, Valerie I. and Bush, James W., Forming Regional Linkages between Proprietary Schools and Other Postsecondary Institutions: A Preliminary Examination of the Proprietary School Sector in New England, and the Design of a Regional Agency Role "vis a vis" that Sector; and the Preparation of a Proposal for Seeking External Funding for Future NEBHE Efforts in this Area, University Consultants, Inc., Cambridge, Massachusetts, January 1975.

5. Nolfi, George J. and Brown, Diane, Plan for Expansion of the Disadvantaged Students through the Formation of Regional Educational Opportunity Centers Linked to Area Institutions, Office of Educational Affairs, Boston, Massachusetts, 1972.

Proposal for Massachusetts Regional Educational Opportunity Center Program, submitted by the Executive Office of Educational Affairs, Commonwealth of Massachusetts, May 1974.

Nolfi, George J. and Bush, James W., Design and Implementation of Community Based Information Counseling and Referral Centers to Serve Adult Learners: Lessons from the Massachusetts Experience, (tentative title), University Consultants, Inc., Cambridge, Massachusetts, in process.

6. As part of the research for Nolfi, George J.; Nelson, Valerie I; Eaglin, Fulton; and Miller, Mildred, "#1 Identification and Recommendation of Target Clienteles for the Proposed Open University in Massachusetts", Plan for an Open Learning Network for Massachusetts, draft report text for the Governor's Task Force on the Open University, University Consultants, Inc., Cambridge, Massachusetts, 1973 and 1974, meetings were convened with representatives from across the state from

6. (continued)
labor unions, employers, proprietary schools and constiuency groups (from low income areas) as well as traditional educational institutions.

7. The experiences of Wisconsin, Pennsylvania and some of the proposals in Massachusetts are illustrative.

II. FINANCING ADULT OPEN LEARNING: VARIED NEEDS AND APPROACHES [1,2]

The chapter is organized around three subtopics. In section A general issues in identifying research and experimentation needs in financing open learning are examined. This sets the stage for section B, which contains an analysis of alternative mechanisms which can be employed to finance open learning. In section C, selected questions of cost effectiveness and productivity are discussed.

A. General Issues in Identifying Research and Experimentation Needs in Financing Open Learning

Research and experimentation in financing open learning should follow several key guidelines.

- -- financing strategies for open learning should be derived from social priorities and from the unique character of current financing patterns in the adult open learning universe
- -- federal subsidies for open learning should be directed first towards solving social problems and improving the skills base in the labor force
- -- existing adult open learning is financed in a market- or consumer-oriented fashion through consumer payments and demand subsidization
- -- guidelines for financing open learning

1. Financing Strategies for Open Learning Should be Derived from Social Priorities and from the Unique Character of Current Financing Patterns in the Adult Open Learning Universe

Decisions regarding experiments in the financing of adult open learning should derive from analyses of its social purposes, not from fads and fancies of the education research community. Given the existing patterns of financing and natural workings of the adult open learning universe, they should reflect a priority orientation towards demand subsidy. Finally, they should recognize the extraordinary diversity of clientele needs and of varied providers within the adult open learning universe. The implications of these considerations is that strategies for financing adult open learning are very different from those for financing traditional full-time youth post-secondary education, as is clear in the following sections.

2. Federal Subsidies for Open Learning Should be Directed First Towards Solving Social Problems and Improving the Skills Base in the Labor Force

A fundamental question of financing adult open learning is what type of learning should be subsidized for whom? The strongest case can be made for the federal government to subsidize experiments with open learning finance that are directed towards the solution of social problems (such as dependency) or improvement of the skills base in the economy. Cultural and recreational forms of activity, while in the long run worthy of public subsidy, are clearly not the first priority.

Efforts should be directed towards research and experimentation with financing approaches and social policies in open learning which are most clearly relevant to the national concerns of the present and the next several years. The priority is clear; until research permits us to answer the question of how to utilize open learning to assist those who are disadvantaged or those who lack employable skills to improve their condition in life, that dwelling upon subsidy programs for recreational and cultural pursuits of the upper classes would be somewhat counter to the social needs and tenor of the times. While long-range general proposals for forced social savings programs or universal drawing account or universal entitlement programs are worthy of some investigation, they are a secondary priority to the extent that they might be used primarily by the middle class.[3]

Most investment in open learning to date has been in experimentation with the process or techniques of delivery of instruction. A new emphasis on the investment in clienteles who need open learning, and investment in new curricular content (e.g., occupationally oriented curricula), and educational and career counseling is appropriate.

In considering initiatives in the financing of adult open learning, it is particularly important that a funding agency maintain a perspective of the purposes to be accomplished. It must avoid becoming so preoccupied with the techniques of particular financing modes that their differential effects on social purposes become obscured.

3. Existing Adult Open Learning is Financed in a Market- or Consumer-Oriented Fashion through Consumer Payments and Demand Subsidization

Existing patterns of financing in each of the many sectors and components of the adult open learning universe have evolved historically in a market and consumer oriented fashion, and as such reflect a perception among those involved of the distribution of costs and benefits of learning. Moreover, financing approaches in each sector are usually well-suited to the characteristics of particular clientele (for example, employer subsidy of the continued education of their employees through the establishment and financing of in-company education programs).

For most of the adult open learning activity in the several sectors of the open learning universe and subsidization which does occur is usually of individuals, i.e., the demand side. Vast numbers of adults pursue open learning and recurrent education which is paid for either by themselves or by their employers as indirect consumers of the educational product.

The existing adult open learning universe operates much more on a "market" model than traditional higher education with its research and other outside funding sources. Adults and employers bear very nearly the full cost of educational services provided, with some exceptions of tax subsidies to employer trained or programs in public institutions with direct or indirect subsidy from the full-time program. By and large this market has worked quite well in meeting a variety of open learning needs. The vast array of adult open learning opportunities which have developed, the

large numbers of adults participating, and the innovativeness of institutions to their needs all testify to its success.

Experiments with new financing patterns should be based on a thorough consideration of these existing and historical financing patterns and approaches. For example, there is evidence among groups now participating in continuing education that the decision to participate is not very price-elastic within the range of existing tuition and fees.[4] However, cost is a significant barrier to the pursuit of open learning and continuing education by certain currently excluded adult clienteles (principally those of low income, low job status and low previous educational attainment level).[5] Subsidies to these groups would encourage larger enrollments.

Examination of existing patterns of financing and the distribution of costs and benefits reveals the implicit assumptions on which they are based. Many of these compare directly with the social objectives for expanded open learning, thus providing insights for new strategies. Similarly, any financing decision of a public agency or private organization in open learning can be examined for its underlying premises. For example, the funding of new institutions is based on the premise that a substantial building of supply of open learning services must take place.

Hence, research on existing financing arrangements is a high priority and should include study of individual student payments, employer subsidy arrangements, and government programs such as the GI Bill. Such research would yield important results (for example, general entitlements of the GI

Bill probably operate in a highly discriminatory fashion by socio-economic class, even though there is no discrimination in eligibility -- the fact is that it is more easily used by certain groups than by others).

4. Guidelines for Financing Open Learning

Three guidelines which should govern financing of open learning can be articulated. These are:

- -- subsidy should be primarily of "Demand" not of "Supply"
- -- public financial investments in open learning should complement, not supplant existing private investment
- -- diverse and pluralistic financing sources and modes are needed

(a) Subsidy of "Demand" vs Subsidy of "Supply"

The two broad strategies of finance are subsidies of users (demand) and institutions (supply). The first is demand subsidy strategies directly to adults who in fact will utilize such subsidies and who will therefore benefit from them depends on exactly how the subsidy mechanism is established (e.g., selective vs universal eligibility). Does that pattern of distribution of use and benefits correspond to social priorities? What would be the appropriate sources of funds (taxes or other) for this approach? Targeted aid (through vouchers, selective entitlements and contracts for services) to particular clientele groups and to particular areas of needed expansion

of the capacity to supply open learning services will be advocated later as the soundest overall strategy.

Second, strategies of subsidizing the institutional providers of open learning must be assessed in terms of the traditional reasons for subsidizing supply and production. These include economies of scale; the necessity to build to capacity because insufficient capacity exists; externalities so large that private incentives for investment will be small and private sources will significantly under-invest in the activity from a social point of view; and an extent of knowledge about the market among potential consumers so small that they may not be relied upon to make appropriate investment decisions with their own (or government or employer) resources at their disposal.

Both demand and supply subsidies are useful in expanding open learning but for different efforts and objectives. Research on the various potential sources of support for open learning and of the types of need most appropriately met by each source is essential.

Demand subsidy is more appropriate for instructional activities. Tentatively, taxpayer subsidies from general revenues would be appropriate for "disadvantaged" and "second chance" adult clientele and for first career types of training, whereas student self-financing is more appropriate for continuing education to facilitate career mobility and advancement, as well as continuing education for consumption purposes (recreation and self-development). Employers can be expected to finance open learning for

certain aspects of career development which are essential to the employers' needs and to subsidize certain forms of continuing education as an employee benefit. Philanthropy is likely to subsidize continuing education for disadvantaged populations and for consumption purposes (primarily cultural and recreational).

Financing non-instructional activities related to the open learning phenomenon should receive priority attention for supply subsidies. Activities such as educational and career counseling, advisement, assessment, information and referral are particularly important. Moreover, different clientèle groups are best served by differentially tuned financing approaches. From a social investment standpoint, distinctions must also be made between the types of educational services or out-put in which financial investments must be made.

The preceding analysis is obviously brief, but it is elaborated in more detail in the working paper on Financing Open Learning which complements this overview.

(b) Public Financial Investments in Open Learning Should Complement, not Supplant, Existing Private Investment

It is necessary to design and implement public policies and investments so that they complement existing private investment and do not simply replace private resources. For example, it is evident that when the pursuit of continued education is required for job performance, private

incentives for individuals and employers are sufficiently high and public intervention is usually not needed. Public intervention in such instances through the provision of training subsidies or the building of supply, would be an unwise and inefficient public investment since those funds would simply substitute for private investment which would otherwise be forthcoming. Public subsidies for open learning should be supplementary and complementary to existing private investment and should be focused on meeting specific identified needs which the existing modes of financing are not adequately meeting.

Federal intervention strategies in this area should be carefully designed to provide supplements to what the open learning market has already supplied, and to strengthen its weaknesses. These might include, for example, institutional forms for certain types of activities such as the awarding of external degrees or the provision of information referral and counseling, and the provision of selective direct subsidy to certain target clientele.

It is critically important that federal policy be predicated on the realization that the federal role should be to make the existing open learning universe or marketplace work better, i.e., to stimulate it to provide certain services it does not now provide. Therefore, public policy intervention strategies must be complementary to existing patterns of financing and operation. Adult open learning is distinctly not a case where the role of the federal government is to build a massive social activity from scratch. The detailed implications of this market character

are not yet well understood because of the dearth of research on several sectors within the adult open learning universe.

Within the general open learning clientele, a priority target clientele having high social priority can be identified. As detailed elsewhere in this paper, these are adults at the lower end of the income, job status, and previous educational attainment level scales. These adults have interest in continued education which far exceeds their present disproportionately low participation rate and they need a specific, targeted subsidy. For these groups private investment at present is inadequate and a strong case exists for public financing.

Finally, non-financial public policies such as requirements for regular continued education for the pursuit of certifiable occupations can leverage expanded private investment for public purposes by creating a system of incentives for that private investment. Employer and personal tax credit policies are a similar case.

(c) Diverse and Pluralistic Financing Sources and Modes are Needed

The diversity of the existing open learning and continuing education universe in the United States requires pluralistic sources and modes of financing. Activities in open learning are pursued for a range of reasons and federal intervention strategies should reflect these. For example, while individual financing strategies (or consumer self-financing) meet certain needs appropriately, block purchase of service arrangements better

serves other purposes (e.g., tailored employer training programs or programs with a particular social problem-solving focus). Clientele groups and different sectors or components of sectors within the open learning universe respond also differently to financial approaches. Thus, the diverse clientele of open learning could be the subject of a range of experiments in different states.

More needs to be known about how the several characteristics of the existing adult open learning universe interact to affect student choices and participation rates for different clientele groups. Financial characteristics are important, but so are aspects such as teaching modes, services provided, credentials offered, and so on. In experimenting with modes of financing open learning a strategem of multiple experiments with comparative evaluations is needed. No uniform approach for financing adult open learning will ever be appropriate, given the vast diversity of purposes, clienteles, and providers in the adult open learning universe. Better data are needed on the actual behavioral effects of various approaches to financing open learning to prove or disprove present hypotheses.

Further, better determination of the social and individual benefits to various groups from the pursuit of open learning is needed. In this connection, the importance of foregone income and the risk of losing one's secure job position are often understated in those open learning funding proposals that are based on having people leave work for a period of time to become full-time students. While remedies have been proposed for the

income loss (paid educational leave), it is not at all clear that the majority of the people want to risk leaving their jobs for a year, even if they receive monetary compensation. In fact most would prefer to study on a part time basis while pursuing their work careers.

Data from other sources (the Parnes Tape) show that the probability for both upward and downward mobility is increased when one leaves one's job and switches to another. Hence, while there are benefits perceived, and the case for these is well-made by advocates of paid educational leave schemes, there are also negative benefits and risks perceived by working adults and verified by research. These are typically understated in such financing proposals.

Moreover, policies for financing open learning must be developed in the context of an awareness of changes occurring in the economy and the labor market. These changes (continued technological changes and skill structure changes combined with the declining birth rate and thus a reduction of new entrants into the labor market) indicate that mid-career change will become increasingly a phenomenon not of voluntary choice but of pragmatic necessity. Financing strategies for open learning should be so attuned. The occupation retraining group, as well as the low income, low previous education adult group identified earlier, are examples of specific clienteles that have a high financing priority. Targeted approaches to helping these particular clienteles rather than generalized approaches to financing open learning should take precedence.

Since there is already a vast investment from private resources in the financing of open learning, the unique federal role should be to make investments in those areas where private investments are insufficient. Further, federal investments should be made in a manner which tests new financing strategies or leverages existing financing approaches. In particular, the federal role should most appropriately be a role which deals with manageable financing strategies and concepts which build on the existing financing structure of the existing continuing and recurrent education system.

While broad based revolutionary schemes for financing of American post-secondary education (such as universal entitlement proposals) are interesting and may eventually come to pass, they should not be the main focus of current public policy research. Immediate attention needs to be devoted to experimentation with a set of selective financing strategies responsive to the pluralistic nature of the adult open learning phenomenon, the particular pattern of private investment in open learning which now exists, and the subsidizing of target clienteles.

B. Financing Mechanisms Which Can Be Used for Adult Open Learning

The variety of sources of support and of financing objectives related to social purposes necessitates examination of alternative mechanisms. Those mechanisms that might be designed to achieve public purposes in financing open learning can be broadly characterized into three types:

-- subsidies to clientele;

-- subsidies to providers of educational services;

-- subsidies to purchase particular social problem-solving education programs.

With each of these categories, a variety of mechanisms may be employed as an intervention and subsidy technique.

Financing mechanisms should be examined from several perspectives. These include the source of funds, the specific needs best met by the particular approach, the effect of that approach on the stimulation of investment of resources from other sources, the appropriate federal, state and private roles using the approach, what the support provided should be contingent upon, what type of activity the support should be allowed for, and the types of objectives to which it is inherently best suited (such as access, innovation, employee productivity, building capacity, and so on).

Financing approaches for open learning may be grouped into several classes of mechanisms. Each of the following intervention mechanisms will be discussed in turn:*

-- Financing Open Learning through Entitlement and Other Grant Programs (Selective Entitlement Vouchers for Target Clienteles Having High Social Priority: Universal Entitlements; Individual Tax Credits)

-- Financing Open Learning Through Block Purchase of Educational Services by Public and Private Agencies for Specific Groups (as has been used in manpower and in other training programs related to social problem-solving or employer needs)

-- Financing Open Learning through Student Self-Support and/or Loan, "Bank", Trust Fund, or Other Credit Approaches

-- Financing Open Learning through Subsidies to Individuals by Employers, Unions, and the Military for the Purchase of Educational Services

-- Long Term General Institutional Subsidies to Certain or all Classes of Institutions and Providers of Open Learning and Continuing Education Services

-- "Venture" Financing of Innovations and Activities which Provide Instruction

-- Financing Open Learning through Advantageous Combinations of Above-Mentioned Approaches

Mechanism 1: Financing Open Learning through Entitlement and Other Grant Programs (Selective Entitlement Vouchers for Target Clienteles Having High Social Priority; Universal Entitlements; Individual Tax Credits)

*The reader is referred to the working paper on Financing Open Learning: Varied Needs and Approaches for a more detailed examination.

There are a wide variety of programs possible within the general concept of an entitlement approach to the financing of open learning. These range from very broad entitlements which could be financed from any of a number of sources, to more selective targeted entitlements, financed from general revenues.

It is appropriate for agencies and researchers to consider a program involving the funding of experiments involving differing models and approaches, as well as research relative to the theoretical and operational assumptions on which alternative program designs are based.

One of the strongest arguments for general drawing rights accounts or entitlements is their neutrality with respect to age. However, this very fact raises a series of questions in need of further explanation. First, if a generalized form of entitlement is to be as a way of financing education, then why should such an approach be limited to adults? General entitlement proposals are in fact proposals for the restructuring the entire pattern of post-secondary education finance? Second, if the entitlement concept for all people has validity, then what justification can there be for severely constraining the use of that entitlement (particularly if it is an entitlement based on a forced individual savings plan) to only the "educational pursuits deemed legitimate by educators." Discussions about education entitlement approaches often avoid some of these difficult questions. Using an entitlement based on forced savings for college study is not necessarily more legitimate or appropriate than using it for travel or for the purchase of a race car for professional driving.

Importantly, there is a fundamental difference in the assumptions which underlie the general entitlement versus the selective entitlement recommendations. The general entitlement recommendations constitute a basic change in the financing of post-secondary education in the country, whereas the selective entitlement approaches are more specifically designed to meet particular identified needs and be congruent with current social priorities and the existing patterns of financing the adult open learning universe. Hence, in the general entitlement approaches, there is less concern with the effective targeting of the resources expended on clientele groups that are identified to have the greatest need and for whom a social investment will yield the highest return.

From a research and experimentation standpoint, general and selective entitlement approaches are not necessarily contradictory. On the contrary, research and experiments with selective entitlement approaches could provide the basis on which final decisions about public policy with respect to general entitlement appoaches could be made.

The use of selective entitlement voucher programs as opposed to general entitlements has advantages in that it makes resources available in a lump sum to those most in need, when they need it, rather than diffusing resources over many adults who do not need aid. More importantly, the approach permits the pinpointing of particular public investments and expenditures relative to particular social purposes and needs.

Sources of funds for entitlements should be examined in a fairly systematic pattern. Various forms of wage, tax and forced savings either through income tax or social security systems as well as various corporate taxes of a coercive nature, such as those used in the French system of underwriting resources for recurrent education, have been suggested. If programs are to be supported out of general revenues, research estimates must be made of the costs involved and the availability of such funds from current tax structures. Trust fund approaches (discussed in a subsequent section) need to be examined to see whether they would develop some of the same restrictive structural problems as, for example, the Highway Trust Fund, or how such problems could be avoided.

A great deal of support for continued education and open learning presently comes through corporate education subsidies to employees, and research on this phenomenon is needed. It is particularly important to ascertain the alternative possible uses of the education subsidy funds (for example, higher wages, payments to stockholders, taxes to the government, development of increased productivity through capital investment, and so on) that have not been chosen, A set of decisions are made involving vast sums of money in employer organizations across the country, and these decisions reflect a set of perceptions about the potential rate of return on money expended for education subsidies to adult employees.

These investment decisions need to be examined to determine their rationale and the validity of that rationale. Moreover, the extent to which the perceptions of those making the investment decisions correspond

to the perceptions of others in the system, and to reality, needs to be examined. For example, what is the relative productivity gain resulting from increased educational subsidies in a particular company as opposed to increased investment in capital equipment, in research and development, or in higher (more competitive) wages?

Finally some evidence suggests that the decisions are not in fact made as investment decisions but that educational subsidy costs are treated simply as fringe benefit costs. There is a strong indication that employees would prefer to receive educational subsidies as a wage increment rather than as educational subsidies.

The implications of general versus selective entitlement approaches should be examined insofar as the types of incentives they create to affect behavior leading to the achievement of priority social objectives are concerned. Again, the problems can be addressed analytically, but experimentation would also prove useful. If entitlement programs are financed out of general revenues, they constitute a wealth transfer. Such transfer payments must correspond to social needs and priorities and must be done in a manner sufficiently unconstrained that incentives are created for certain types of behavior on the part of recipients without their choices being overly limited.

For example, considering the welfare system as a program which provides entitlements for the purpose of transfer of wealth, the types of problems

that can be engendered with complicated administrative mechanisms are apparent. Simpler approaches such as the negative income tax or family allowance are therefore appealing.

Similarly, in considering general or selective adult entitlements for education, operational designs must permit simple program administration. Hence, the welfare and basic opportunity grants programs provide certain models, proposals such as negative income tax and family allowance should also be examined for relevant administrative models.

Certain legislative realities should be considered in the design of entitlement experiments. First, given the clear disposition in Congress and many state legislatures toward targeted forms of aid for education (principally to those most in need), it is unlikely that general programs which are subsidizing all adults regardless of socioeconomic class will achieve immediate support. Programs which effectively target on the lower socioeconcomic class without excluding the lower middle class (through the graduated contingency of entitlement support on income and perhaps other factors) must be explored.

Income and previous educational attainment level in combination should be the fundamental criteria for determining the award of adult open learning subsidies.[6] While the use of income as criteria for receipt of public subsidy has been widespread, the use of previous education level has not yet been tried. Further, given the relationship between recurrent education, open learning, and the development of employable skills in

those of low job status or unemployed, and those on welfare, other modes of contingency such as awards for study only in certain areas of labor force need (to assure that results of the education would result in employable skills) should be examined. Given the fact that the labor force requirements do change, approaches have to be developed and built in to make sure the contingency requirments change in an appropriately responsive and timely fashion.

The use of the tax or social security system for a forced-savings arrangement for financing entitlements has also been discussed.[7] The philosophy behind this approach is that a citizen should be required to save a certain percentage of his income to be placed in an educational drawing account. The drawing account provision is important since in order for the person to be able to use these funds in a lump sum as an entitlement, he must be able to draw against future income. The relative utility of forced savings approaches versus voluntary loan approaches should be examined. This idea of force savings through the tax or social security system for educational expenses has both positive and negative attributs. Some of the purposes for which it is designed could be more easily served by a voluntary loan program combined with a selective entitlement approach for selective target clienteles. Comparative analyses of the two approaches would be desirable.

Of course, one of the principle values of generalized universal entitlement or forced savings approaches, contingent on neither age nor socioeconomic variables, its that they are a way of undermining and restructuring the particular present pattern of post-secondary education

finance, a pattern which effectively constrains the choices of many individuals. Such an objective for these programs is a worthy one, but it should be studied separately from the more limited and unique issue of proper subsidy for adults in pursuit of open learning.

For example, it is misleading to consider general entitlements solely on the basis of , for example, the potential benefits to individuals who use them, without similarly considering other explicity purposes in the design such as the reform of post-secondary education finance. This is illustrative of the general fact that implicit in any of various financing schemes for open learning are a specific set of assumptions and objectives. These should be sorted out in each case, and adequately studied to determine whether or not they are appropriate, justified, and consistent with social priorities in financing open learning.

Across-the-board tuiton reduction systems, in which the reduction is granted through tax credit, have also been suggested. Such approaches permit, in effect, persons to receive a certain amount of money as a tax credit for the pursuit of additional education. These approaches have merit, but should be designed so as to target aid mainly on those adults most in need. Moreover, the impact of such approaches on the interaction and use of public and private education institutional resources should be assessed.

For all forms of entitlements, be they general or specific, an assessment must be made of the sources of the funds. For example, a

general entitlement must either restructure the allocation of existing resources within post-secondary education finance or it must be based on some form of new tax structure which generates the necessary large new revenues. Selective entitlement, depending upon the appropriation level, could well be financed out of existing general revenues, since smaller total expenditures are needed.

The decline of the favorable attitude towards low income student aid due to problems with need analysis and problems of middle class families needing educational subsidy will have an impact on the design of legislatively viable adult student aid programs. Complicated needs-analysis mechansisms should be avoided, and graduated contingency requirements employed. Hence, the political process currently underway with respect to the financing of traditional youth students should be examined.

It is important to note that while there is increasing pressure to make the basic opportunity grants program usable by part-time adult students, such efforts will still result in the programs's being largely usable only by the youth. This is due to a series of structural characteristics of the program which, while well-suited to young students, make it somewhat inappropriate for older students. Independent approaches specifically tailored to financing adults for open learning are more appropriate.

Examination of the type of lobbying that is going on for various changes in student aid legislation and in ways of financing adults

would improve understanding of the dynamics of the social decision to provide general investments in adult open learning. The patterns of constituency formation, and the extent to which the interests of the lobbying groups do or do not correspond to the social priorities outlined in the beginning of this chapter would be revealed.

Finally, in considering adult financing schemes, it is important that any general taxpayer support must in fact affect enrollment behavior (that term is used here very generally and is certainly not meant to be constrained to enrollment in traditional educational institutions) or else the effort simply constitues a transfer payment.

Mechanism 2: Financing Open Learning Through Block Purchase of Educational Services by Public and Private Agencies for Specific Groups (as has been used in Manpower and in Other Training Programs Related to Social Problem-Solving or Employer Needs)

Governments, employers, and private groups are the principle sources of funds for block purchases of eduational services. This approach best serves specifically defined needs. Given this, research on the effectiveness of contracting for educational services in various circumstances should be undertaken. To develop better ways of assessing the effectiveness of block purchase of educational services, better measures of quantifiable, and especially non-quantifiable, educational outcomes are needed. In general, a sophisticated examination of exactly how the block purchase of educational services approach now functions in a variety of settings, with an eye to-

wards improving its functioning in those settings, would be useful. Examination of the relative effectiveness of alternative approaches to purchasing educational services for a particualr purpose should be undertaken with emphasis on various kinds of block purchase arrangements. Further, the refinement of labor market demand data could permit a greater specificity in the design of purchase of educational service arrangements.

Considering the effect of block purchases of educational services on the stimulation of investment from other sources, it is troubling to note that considerable research indicates that federal funds used to purchase training services in many manpower programs simply substitutes federal expenditures for expenditures which companies or unions or individuals would have made anyway . In fact, not only did such substitution effects occur with the federal investment, but in addition, very often it resulted in training to the point of oversupply.

Yet, in many instances block purchases of educational services have worked quite well to achieve specific eduational outcomes for employers, the military, and federal social problem-solving undertakings. Further, some states, particularly in the South, have used the block purchase of vocational education and training services very effectively as an incentive to industrial relocation (the state guarantees to train the skilled manpower pool a prospective industry will need.) The reason these programs have been successful and others have not reveals the single most important criterion for a successful block purchase of educational services program. Namely, the program must pin-

point a specific training outcome.

In order to better understand the appropriate circumstances for use of purchase of service arrangements in financing open learning, the responsiveness of the approach to various objectives must be assessed. This can be done through a variety of indirect investigations in other areas of government activity where purchase of service contracts have been used precisely for the purpose of developing innovations in technology, management, strategy,etc. (e.g.,in the Department of Defense)

Finally, considering employer-based and -financed training programs, the degree to which the costs of those programs are in fact borne by the employer or the employee should be studied. Evidence indicates that, in fact, it is the individual who bears the cost, due to lower wages during the period of training (he receives in the form of education subsidy what he would otherwise receive in the form of wages), with the carrot of higher wages held out as an incentive to retain the employee upon completion of training. However, if the job for which the person is training terminates, it is the individual not the employer who must bear the loss of the capital investment made in that training.

For the block purchase of educational services approach, contingency of those purchases on the performance, cost and resulting pro-

duct of the educational activity is appropriate. This implies an ability to accurately assess the "value" of the educational services. Further, it implies an approach to the provision of education which is as much oriented towards the assessment of the provider as it is of the students. Hence, competitive-bid procurements conducted for certain outcome-oriented open learning services for particular clientele groups should be used.

In another instance, many corporations have been interested in purchasing open learning services from educational institutions. This has usually included the award of credit by the insitution for formal and non-formal learning in the employer's setting and the provision of courses of traditional content but offered in a highly flexible mode to employees. Developments in this area can yield information on the utility of the approach and the effect of such "contracting" on the providers of educational services as well as on the clients and purchasers. Does the approach, for example, build responsiveness into institutions? A similar question could be asked about the employer training needs. Has the "open learning" approach of the educators assisted in altering or better focusing the employer's training needs? In short, the interaction between open learning institutions and employers should be examined to determine the nature of the interaction, and the effect of that interaction on the trade-offs made in the restructuring of the educational process which ensues.

Studies of internal employer-based education systems are important, since so little is known about this activity even the basic dimensions of this activity are uncertain. Studies in Massachusetts [8] and a sample study nationally [9] have begun to shed more light on this, but considerable research should be directed at understanding the role of such educational activities, the teaching/learning process involved, and the implications of these approaches for improvement of open learning in traditional educational institutions. Most employer-based programs are effectively block purchase of service programs with a specified purpose and outcome.

Mechanism 3: Financing Open Learning through Student Self-Support and/or Loan, "Bank", Trust Fund, or Other Credit Approaches

The use of loans as a mechanism for financing adult open learning has received little attention although self-support in extension and continuing education efforts has been the traditional mode of payment. That predominance of consumer payments is based on the (largely correct) premise that the student will receive a substantial direct financial return from the additional education pursued. These same characteristics argue for the applicability of loan modes of financing.

The design of a contingent loan model for adult open learning is needed. Alternative ways of capitalizing the program should be explored (the Government, employers, a forced savings account perhaps tied to the tax or Social Security systems). The effect of contingency variables and of schedules and rates repayment, periods of schedule, debt limits, application procedures, income contingency scales, and repayment pro-

tection should all be examined to ascertain their effect on adult participation rates and on institutional responses. Further, incentive approaches for employers to make loan funds available should be examined.

The questions of contingency must be researched. Contingency for adult open learning loans can take many forms, but the most significant would probably be that of income contingency of repayment. However, having the repayment rate or amount (partial forgiveness) contingent upon certain career pursuits responsive to labor market shortages in subject fields or geographic areas should also be considered. Such contingency could be structured directly with federal repayment assistance or indirectly through such devices as tax incentives to employers to undertake repayment on behalf of employees when contingency provisions are met.

Various approaches to government loan subsidization could be taken. For example, in-school interest-subsidies or overall interest-subsidies are questioned by many on cost-effectiveness grounds. On the other hand, loan guarantees which provide repayment insurance to lenders are generally agreed to be a highly cost-effective means. Considering the fact that in open learning the student body is almost entirely mature adults who are accustomed to using credit, the repayment assurance strategy for overall policy would appear most appropriate.

The sensitivity of the demand for open learning services as a function of federal loan strategy is unknown. How many more adults would be induced to pursue open learning if there were a government loan program with guaranteed repayment? Moreover, does the difference between a 3 percent loan and a 7 percent loan substantially affect the decision of adults to participate in open learning? For what economic groups does this effect pertain? Experiments are also required to ascertain which adult populations will in fact use loans.

The effect of loan modes of financing open learning on the stimulation of investment from other sources needs to be investigated. One examination that could be undertaken here is the assessment of the extent to which federal direct and guaranteed student loan programs and the National Student Loan Marketing Association program have served simply to substitute federal funds for other funds, and the extent to which they have in fact expanded the pool of available resources.

Additionally, the relative distribution of benefits for education pursued earlier, as opposed to later, in one's life will determine the effective discounted rate of return on that individual's investment. This will affect the person's willingness to borrow to make the investment. Research on these variables could assist in the design of an effective loan program tailored to the needs of adult open learners. Typically, for educational attainment reached later in life, the social rate of return is lower than for that same educational attainment reached earlier, due to fewer years left in the person's life during which the society may benefit.

The question of whether loan programs for adult open learners should be designed and administered separately from those programs for youth merits examination. The disadvantages of simply broadening the existing programs designed for youth pertain, in the case of loan programs as discussed earlier, to grant programs -- namely, that the complicated advance application procedures will tend to deter precisely those adult groups that have the lowest participation rates and that, as a national objective, should be made most able to pursue open learning. Loan programs specifically for adults are most appropriate.

Of course one problem with low interest loans, if they are made universally available, is that there is no effective way of rationing limited resources to those most in need. Adults with adequate personal resources will use the loan program to free up resources in their own budgets to be invested or used for other consumption purposes. Hence, the contingency of the loan eligibility on past incomes and education level needs to be explored.

The issue of loans for education is complicated by several factors: the fear of exploitation of loan programs (possible but controlable); the popular notion that borrowing is evil; and the general notion that the social returns to education are so high compared to the individual returns (clearly not true) that the individual should not be required to make the investments. These issues become even more troublesome

when adult open learning loans are considered, since such loans would presumably cover a broader range of activities. Examination of these premises and the assumptions underlying the loan philosophy, with particular reference to adult non-traditional clienteles, is needed.

Mechanism #4: Financing Open Learning through Subsidies to Individuals by Employers, Unions, and the Military for the Purchase of Educational Services

The need for research on employer-based education programs as well as on the employer education subsidy program has been referred to earlier. The "appropriate" role for industry and employers in financing open learning should be examined with reference to the distribution of costs and benefits to determine circumstances under which it is reasonable for society to rely on corporate investment.

Incentives for expanding this investment should be examined and possible public policy options (such as tax incentives) to foster additional such investment evaluated. Most employer education subsidy plans are based on the assumption that the individual is the best determinant of his education needs. Hence, although many plans have restrictions of "job relatedness," these restrictions are usually broadly interpreted and, in any case, it is the individual employee who selects which of a variety of job-related educational experiences he chooses to pursue.

An important point that needs to be examined regarding employer

subsidy programs is who in fact is paying for them. To the extent that these are deductible corporate expenses (as they are), then the government is partially paying for them through foregone tax revenues. If the funds used for educational subsidy programs were instead declared by the employer as income, that portion which was not paid in taxes could be used either for stockholder dividends or for alternative investments within the corporate structure. Importantly, one alternative use would be higher wages to the employees.

In fact, education subsidies constitute a "fringe benefit" which many employees would much prefer to see translated into an incremental increase in their hourly earnings. Such a policy would mean that the federal government would still be foregoing tax revenue through the corporate tax (because the increased wages would be an allowable expense), but a portion would then be obtained from the employees through the individual income tax. Employee education subsidy plans in fact constitute a mixture of a forced savings plan for a small percentage of the person's potential wages combined with a corporate investment in the improvement of its human capital. Poor understanding of all of these relationships at present constrains public policy.

The Kimberly-Clark Corporation has received a good deal of attention within the last year for its education subsidy program which provides a general subsidy for a variety of educational uses, not necessarily job related. The plan has high participation rates. Its several provisions include an employee account, an account for family

education expenses, two weeks of paid education leave each year and provision for extended educational leave.

The programs was started as a fringe benefit to employees based on two assumptions: First, that middle income families were having difficulty financing college expenses for their children; and second, that to the extent that industry has an obligation to aid education (an obligation to which the Kimberly-Clark Corporation strongly adheres) their programs was the most effective approach. This prompts several questions for research. What are the trade-offs from the standpoint of a corporation, from the standpoint of its employees, and from the standpoint of educational institutions of industry's aid to education being in the form of educational subsidies to employees, be they general or specific, as opposed to donations to institutions?

Evidence[10] indicates that Kimberly-Clark employees (like other employees covered by employer or union education subsidy plans) probably would prefer to have the funds in the form of incremental wages. What, then is the justification for a program which effectively constrains a person's choices with respect to the expenditure of that portion of his earnings and makes those expenditures only partially discretionary? (This latter question obviously also applies to all forced savings plans for financing education as mentioned earlier.)

Mechanism 5: Long Term General Institutional Subsidies to Certain or All Classes of Institutions and Providers of Open Learning and Continuing Education Services

Given increasing mobility of educated manpower, and given the apparent decrease in the economic return to education, legislatures are increasingly reluctant to spend money to educate individuals who might leave the state. (This is an evident problem in youth full-time higher education.) The relationship of foundation or federal government "start-up" grant monies to state aid and to consumer payments in open learning should be explored. It is fairly clear that many new open learning experimental programs would not have begun without outside start-up funds, yet it is equally clear that the great bulk of continuing and recurrent education activity which goes on in this country is in fact financed by private sources, whether those be individuals or their employers.

These facts merit further investigation. They suggest that while financing schemes for the start-up of innovations through financing suppliers of educational services have been an important phenomenon in the development of amny experiments, a key question must be asked: If these experiments are so useful and important to consumers of educational services, why was it not possible to start them on a basis where they were financed out of student payments? As discussed earlier, most activities in the open learning universe have developed with funds obtained from user payments since the activity was meeting a clear need.

The distinction between start-up funding and long-term general subsidies should be kept in mind. Factors which justify the former do not necessarily justify the latter. This point further underscores the necessity of open learning and continuing education to have a

diversity of sources and modes of financial support, given their diverse and pluralistic nature.

Different sources and mechanisms of support are appropriate for different needs. The types of needs best met through intitutional support, instructional support or general direct support of the institution as a provider of educational services; support for specific activities such as outreach functions; the award of credit for life experience or the brokerage of other educational experiences; support for activities directed at the aggregation of demand from new consumer groups so that self-financing sources and programs could be instituted; or support for new efforts to utilize adjunct faculty; etc., should be ascertained.

While some would argue that direct institutional subsidy leading to low tuition is an important way to increase access for traditional youth full-time day students, data that has accumulated on the existing continuing education system do not support this contention for adults. While substantial tuition differentials exist between continuing education programs in different institutions at present, the characteristics of clientele in those programs are surprisingly uniform across programs of different prices.[11] In all cases, the clientele tends to be primarily middle and upper middle class by income, job status and previous educational attainment level. Since the access question becomes one focused on those adults of low income and low previous education, targeted rather than diffuse subsidy approaches would clearly best meet the access need.

In considering the effect of direct institutional subsidies on the stimulation of investment and resources from other financing sources, research should determine whether institutional grants or subsidies to permit lower tuition charges in continuing education actually have stimulated more investment from other sources or whether they have simply replaced dollars that would have been or were previously available from private sources.

Much more needs to be known about what state and local governments do in response to infusions of federal funds in educational programs of institutions, and what institutions do with their own discretionary funds when external public funds become available for certain activities which previously had a claim on institutional funds. There is conflicting evidence on this point at present. Some evidence indicates that federal dollars simply replace dollars that would otherwise be spent by state and local governments or by private organizations or individual consumers of educational services. Further, research and experimentation should be conducted with matching requirement strtegies for the provision of institutional aid. These strategies would make as a condition for receipt of federal subsidies the provision of subsidies from other sources.

When considering institutional subsidies, the financing of the adult open learning and continuing education activities as separate and distinct from the financing of full-time day youth instruction comes under the question. The extent to which movement towards traditional credit-hour forms of financing (or the current interest in con-

tinuing education units and the inevitable pressure for equivalency determinations between CEU's and credit-hours) implys a homogenizing of the currently diverse continuing education and open learning system along the lines of traditional higher education should be investigated.

Currently, continuing education and open learning often operate on an entirely different set of operational and financial premises than traditional full-time higher education even within a single higher education institution (let alone between different sectors within the open learning universe). Some advocate the merging of the two into a continuity such that adult continuing students on a campus would be indistinguishable from the full-time youth undergraduates.

Others, and this author is among them, argue for a retention of the independent and responsive market-oriented status of continuing education and adult open learning in the higher education sector for several reasons. Research in this area is of high priority since trends towards full-time equivalent financing, while they may be appealing from the perspective of public institutions, will in fact lead to a rigidifying of, for example, the use of faculty, along the traditional lines. This would mean that where now adjunct faculty are currently used at one quarter to one third the cost per course for faculty teaching equivalent courses in the full-time programs, the teaching of evening adult courses would be considered part of the norami workload with all the attendant cost distribution. Further FTE or CEU funding in public insitutions will impinge on the role of private, proprietary and other institutions.

Models of accountability for direct institutional aid mechanisms should be developed. These would determine how, if such aid is provided to providers of continuing education and open learning services, can responsiveness on the part of those providers to consumer needs be assured.

On what should direct institutional subsidy be made contingent and for what types of activities should it be allowed (e.g., formal/non-formal; credit/non-credit; work-related/general interest)? The appropriate role for taxpayer support out of general revenues for certain kinds of activities based upon distribution of benefits from those activities must be determined. Research should facilitate the distinction between those activities which should be paid for by taxpayers and those which should be financed by private funds.

The existing system of continuing eduation and open learning operates on the premise (and research[12] shows this to be a correct premise) that for those now utilizing continuing education, the payoffs are sufficiently high that individual investment is both justified and readily forthcoming. Further, it is clear that benefits to employers from varied continuing education activities are sufficient for employers to invest large sums in education subsidy. However, there are certain clientele groups who either simply cannot afford the investment in additional education or who do not perceive the benefits from making this investment.

Hence, in considering any form of direct institutional support from public funds, the benefits rationale for the expenditure, along with the true costs associated with each activity, should be analyzed. Certain types of activities such as credentialing or the provision of counseling services may be sufficiently cost-effective from a public investment standpoint that they justify taxpayer expenditure to provide them to all clients. whereas instruction subsidies should probably be made contingent on client characteristics consistent with social priorites.

In considering direct institutional subsidies, research needs to be performed to determine the extent to which this mode of financing is differentially responsive to each of a set of public policy objectives (e.g.,access, the building of institutional capacity, stimulation of innovation, the accomplishment of secondary objectives such as employee productivity and so on). Evidence indicates that direct institutional subsidies are very good for building capacity and for stimulating educators to undertake new activities within the institutional settings. The effect of such subsidies on access is less clear, as the Federal focus on student aid for youth (as reflected in the Education Amendments of 1972) indicates.

However, while such institutional subsidy leads to a variety of worthwhile innovations, such an approach has not been terribly responsive to the needs of selected clienteles (or at least has been an inefficient way to fund such clienteles since clienteles without need receive an equal subsidy). Indeed such innovation in open learning in the traditional sector

of the open learning universe has been different ways of providing educational services to basically the same educational elite drawn from the upper middle class. Studies of institutional subsidies through special grant programs and other forms should be made to determine what actual effect these approaches have had.

Mechanism 6: "Venture" Financing of Innovations and Activities which Provide Instruction

There are several strategies that can be adopted with respect to the stimulation of innovation in a system as pluralistic as the existing system of open and recurrent learning in the U.S. The strategies of financing can vary at one extreme from total subsidy of demand to, at the other extreme, total subsidy of supply. Examples include the provision of student aid funding versus the placement of large amounts of money into the development of totally new and innovative institutions. For instance, corporate tuition assistance plans are examples of "clean" demand subsidies while the University of Mid-America project is an effort which implies a financing strategy to build capacity and supply to provide innovative educational services.

It must be determined whether the basic financing strategy for open learning (a) should respond to the inherent tendencies within the educational system to innovate and support those tendencies by venture

funding educational entrepreneurs and innovative projects, or (b) should avoid subsidy of innovations conceived by professionals per se, and instead subsidize demand, on the assumption that innovation will be responsive to the latent demand for expanded open learning services.

The latter strategy would rely on a "market" approach. Here, the demand subsidies to adult open learners would create adequate incentives within the system for institutions and organizations to respond with a wide variety of innovative educational services, provided the consumers of education services are in fact given an adequate latitude with respect to the use of their education subsidies. Evidence and arguments exist for both approaches, and these should be explored. That exploration should focus on what we need to know in order to make an intelligent decision of when and how and to what degree to utilize demand versus supply subsidy in the stimulation of expanded, non-traditional learning opportunities.

If the market and demand subsidy strategies are adopted, the locus of responsibility for the stimulation of innovative educational services must be assigned. What share of this responsibility should be borne by state and federal governments or by employers, for example. On what basis does one make a judgment about the appropriate distribution of responsibility? Is it fair to say that while the responsibility for the provision of subsidies to consumers of educational services should rest with a variety of sources, it is peculiarly the responsi-

bility of the federal govenment to stimulate innovation in open learning? If so, then it becomes crucial for federal investment strategies to be based on a thorough understanding of the range of viable innovations, the relative costs and benefits of the various innovations, and most importantly, the gaps within the existing extensive system or universe of open learning which is in place and functioning quite well. Clearly, the distribution of benefits theory which is somewhat useful in clarifying the distribution of subsidy responsibility between individuals and society for education is very tricky to apply to the analysis of who benefits and who should pay for innovation.

Mechanism 7: Financing Open Learning through Advantageous Combinations of Above-Mentioned Approaches

In addition to individual research, explorations and experiments with the above approaches, combinations of these approaches should be examined. One particular combination which holds promise is the provision of the guaranteed availability of income contingent loans for all adults, together with the provision of specific targeted entitlement vouchers for selected clientele groups (particularly those of low income and low previous education).

Further, the explicit strengths and weaknesses of a pluralistic approach to the ultimate financing of open learning versus homogeneous universal solutions should be examined to determine the strengths and weaknesses of each approach.

C. Understanding Cost Structures, Cost/Benefit Characteristics, and Productivity in Open Learning

Six main research issues need study in order to permit a thorough understanding of the complex problems of cost structure, cost/benefit characteristics and productivity questions in open learning.

(1) The Education Production Process

Several trends in comtemporary American society require a sharper focus than ever on the question of costs and benefits of educational activities. These include the competition for limited resources between education and a host of other social priorities, many of which have a more pressing urgency than educational expenditures, and the general concern in the traditional education sector with the dual pressures of declining enrollments and competition from alternative forms.

(2) Tension Between Formula Budgeting Approaches for Traditional Higher Education Institutions and the Characteristics of Open Learning

In cases where innovative institutions have been started within the context of traditional postsecondary institutions (e.g., Empire State College, and the University of Mid-America), there is concern for the relative costs of an innovative open learning approach, its attractiveness to students and ultimately its petition for the total pool of budgetary resources. This results in pressure to use cost per student measures as

guages of program performance and as a basis for budgeting. Yet these estimations have been made for the convenience of administrators in traditional youth-oriented, full-time student public institutions, and do not fit the character of adult open learning in the several sectors of the open learning universe for several reasons as has been described in previous sections.

The federal government, moving more toward national standards of cost accounting, adds to the problem. What types of costs should be included in "open learning FTE" if that approach to financing is followed? And given the widely varied cost structures of different providers of open learning services, can this approach to funding be made responsive to incentives for cost reduction? It is unlikely that these attempts to determine a uniform cost per FTE can be used as a basis for funding open learning in the several sectors of the open learning universe. Further research directed at the varied cost requirements of varied approaches to open learning is needed, as is research on how output and the costs associated with it can be related.

(3) Productivity Questions

Traditional continuing education programs, typical proprietary schools, and many employer- and union-based open learning activities

operate at a much lower cost per unit of out-put* than do the new experimental open learning programs. The reasons for these differences should be studied and understood. Productivity differences resulting from different teaching/learning approaches should be examined and explained. This is important because in addition to the access goals of open learning finance, the development of means to generate greater output per unit of input is an important goal. Reduction of the labor intensiveness of many open learning approaches is one way this problem can be addressed.

Cost and productivity studies of various models of external degrees are needed. Further comparisons between traditional extension degree programs and newer external degree programs (e.g., compare the University of Miami program with that of Florida International University) should be made. The older "commuter degree" programs are typically large volume, low cost, and profitable operations, and the new programs are often high cost/low volume but little is known about the cost effectiveness of either.

Analyses of the sources of productivity in traditional continuing education programs should be performed with particular attention to certain practices which may be applicable in open learning. These include highly

*The problem of how to increase productivity (i.e., what measures of educational output should be used is of course open to dispute, and research on that issue is justified. For the present discussion, it is assumed that the appropriate measure of output is competencies attained. (note that "degrees" or "credit hours" per se are clearly inappropriate measures.)

pragmatic practices such as contracting for continuing education by a group client, the practice of testing new course ideas by trial and error to see if the course will "sell," before investing large sums in development and course design, and the use of sophisticated mailing and marketing techniques,

(4) Cost Analysis: Varied Approaches

Definitions need to be clarified (e.g., what constitutes an enrolled student in open learning, what constitutes degrees of progress and accomplishment) in order to compare costs across institutional functions or types of students. Although agreement on working definitions is important no single approach to cost analysis will be feasible or desirable in open learning in light of the pluralistic nature of the system.

The differential costs occasioned by different types of open learning clientele, and the kinds of resources needed for each case requires investigation. The breakeven cost levels for different types of services and for working with different clienteles should be determined from existing programs as a guide to planning.

The pattern of costs involved for open learning undertaken in institution-based programs versus non-campus programs should be also assessed. (For example, in non-campus programs, there are in fact many services -- e.g., library use -- which are obtained free from other sources without the need to incur direct program expense.)

Finally, cost analyses by functions of open learning programs are needed, with the functional cost categories related to their purposes. The financial aspects of programs need to be explored in detail, not by traditional "accounting categories" but by costs associated with the performance of the functions necessary for a variety of programs. Moreover, when the true costs for different functions is clearly depicted, they can be related to the results or benefits from each of the respective functions. Properly defined, the functional categories permit analysis of the underlying trade-offs with respect to the utilization of resources in the programs. Such functions include recruitment, administration, assessment, lecturing, development of individual study materials, maintenance of communications with remote learners, record-keeping and so on.

This type of approach to a cost analysis for the programs would shed significant new light on the actual cost-benefit structure of these programs. Moreover, these functional categories would be applicable to a variety of open learning programs, and hence, the analytical techniques and the type of data generated would be generalizable. Those interested in designing new programs could then analyze and compare what their particular mode could cost, given its particular distribution of emphasis over a set of functions.

Again, it should be emphasized that the type of costs and financial information is what could be termed "true total cost" financial information aggregated by function. (Open learning programs maintain only "partial

operational cost data.") This type of cost data permits one to see exactly how resources are being utilized in the program and what resources are being required to do what tasks in the programs, regardless of the source of those resources or the type of organization conducting the program.

Having such costs aggregated by function (as opposed to aggregation by organizational unit or traditional accounting category) raises a series of questions which would otherwise not come to mind with respect to the utilization of resources in the programs. The result could well be new awareness of significant opportunities for cost savings in the programs, permitting either the generation of surplus which could be used to develop new programs or the reduction of costs to program enrollees. The former result is obviously desirable from a program development standpoint, while the latter may be desirable from a competitive standpoint as other programs increase. Development of analytical approaches and methods for such cost analysis would be a significant contribution.

(5) Use of Existing Open Learning Programs as a Cost/Effective Base for Expanded Services

The cost implications of the varied open learning activities are very different. Cost comparisons are thus difficult, yet to the extent that public resources are utilized, such comparisons along with output comparisons must be made. Further research in this area must be broadly enough conceived to include various hidden costs and hidden subsidies (e.g., the cost of foregone income varies and may be quite low in what otherwise would appear

to be quite costly individual study). Similarly, the use of borrowed facilities (such as libraries) which are paid for by others can give the appearance of lower total social costs that is in fact the case.

One of the advantages of initiating open learning experiments which are based in existing programs is that economies associated with production of a joint product can be realized. When a totally new program is started, then all costs must be borne by the open learning program alone. Provision of open learning services at low marginal cost through the use of existing facilities and programs is a priority area for investigation. With that approach, both the marginal and the true average cost of the new and older educational products of a given provider need to be examined.

(6) Costs and Benefits, Origin and Distribution

Cost/benefit research for external degrees and other open learning programs should be a high priority research area. Cost analysis approaches have been discussed earlier. A better understanding of the distribution of benefits is equally important.

Effective open learning with presently underserved adult clientele groups can be quite an expensive undertaking on a per-student basis, while there is an apparently high social rate of return on such investments. Given that fact, a decision can be made as to the level of investment appropriate to the various approaches on a social cost/benefit basis.

Foregone income of students in different open learning modes is an important variable (much misunderstood and overrated for adults), the implications of which are poorly understood, as is the extent to which part-time study offers advantages and disadvantages (i.e., less foregone income, but greater time to complete a program).

Given the role of open learning and recurrent education in facilitating career change and retraining of people with obsolescent skills, studies of costs and benefits associated with this phenomenon should also receive attention.

References

1. The material represented in this chapter is discussed in more specifics in the working draft: Nolfi, George J., "Paper #3, Financing Open Learning: Varied Needs and Approaches", University Consultants, Inc., Cambridge, Massachusetts, July 1975.

2. Appendix "Reference Bibliography on Adult Open Learning (keyed to working paper topics)", University Consultants, Inc., Cambridge, Massachusetts, July 1975.

3. Discussions of several proposals can be found in the following. The specifics as well as the degree to which it serves the target adult clienteles are discussed briefly here and in greater degree in: Nolfi, George J., State-based Adult Recurrent Education Entitlement Voucher Program: Financing Open Learning and Continuing Education for Adults through a Selective Entitlement, University Consultants, Inc., Cambridge, Massachusetts, 1974.

Levin, H.M., "Postsecondary Entitlements: An Exploration", Center for Economic Studies, March 1975.

Kurland, Norman D., "Financing Lifelong Learning: Rationale and Alternatives", The State Education Department, The University of the State of New York, April 18, 1975, (memorandum).

Honey, J.C. and Hartle, T.W., "A Career Education Entitlement Plan Asministrative and Political Issues," Syracuse University Research Corporation, April 1975.

Striner, H.E., "Continuing Education as a National Capital Investment", W.E. Upjohn Institute for Employment Research, March 1972.

Levine, H.A., "Strategies for the Application of Foreign Legislation on Paid Educational Leave to the U.S. Scene", National Institute of Education, 1974.

Cartter, Allan, "The Need for a New Approach to Financing Recurrent Education," mimeo, n.d.

Kurland, S., "Lifelong Educational Entitlement: An Exploration", Albany, November 25, 1974.

Kurland, S., "Financing Lifelong Learning Proposal for an Age-Neutral Educational Entitlement Program", Albany, April 18, 1975.

Pitchell, Robert J., Memorandum to American Council on Education, Policy Analysis Group, August 22, 1974.

Soli, Guy, Draft Paper for the American Council of Education, 1974, as reviewed in Kurland, op. cit.

Dresch, Stephen, "U.S. Public Policy and Evolutionary Adaptability of Postsecondary Education", in Recurrent Education, Ed. Selma Mushkin, National Institute of Education, 1973.

Ziegler, Warren, "Draft Proposal for New Legislation", Educational Policy Research Center, Working Draft, 1973.

Wish, John; de Vriend, Wim and Dent, Dick, "Granted Education", Consumer Research Center, University of Oregon, 1973.

Pascal, Anthony, "Foreign Programs", An Evaluation of Policy Related Research on Programs for Mid-Life Career Redirection.

Lotze, Chris, "An Exploration of Postsecondary Entitlements: Three Models Developed by Henry M. Levin", Paper presented at the Seminar on

3. (continued)
Entitlement Proposals conducted by the Secretary for Education, Office of Education.

Outline Summary of National Manpower Institute Adult Education Financing Porposals, Paper presented at the Seminar on Entitlement Proposals conducted by the Secretary for Education, Office of Education.

An Analysis of the Bill, "The Adult Lifelong Learning Act", Paper presented at the Seminar on Entitlement Proposals conducted by the Secretary for Education, Office of Education.

4. Nolfi, George J. and Nelson, Valerie I., Strengthening the Alternative Postsecondary Education System: Continuing and Part-time Study in Massachusetts, University Consultants, Inc., Cambridge, Massachusetts 1973.

5. Ibid., Vol. I, pp. 50-58.

6. Nolfi, George J., State-based Adult Recurrent Education Entitlement Voucher Program: Financing Open Learning and Continuing Education for Adults through a Selective Entitlement, University Consultants, Inc., Cambridge, Massachusetts, 1974.

7. See e.g., Striner, op. cit.
Levine, op. cit.
Dresch, op. cit.
Kurland, op. cit.
Cartter, op. cit.

8. Nolfi, George J. and Bush, James W., "#5 Survey of Employer based Education and Training Opportunities in Massachusetts' Employers", Plan for an Open Learning Network for Massachusetts, 1973 and 1974.

9. Bureau of Labor Statistics, Report on a Pilot Survey of Training in Industry, U.S. Department of Labor, March 1973.

Neary, H. James. "The BLS Pilot Survey of Training in Industry", Monthly Labor Review, February 1974.

10. Personal comment by Richard Hupp, Kimberly Clark Corporation.

11. Strengthening the Alternative Postsecondary Education System: Continuing and Part-time Study in Massachusetts, op. cit.

12. Ibid.

III. OPEN LEARNING AND THE WORLD OF WORK [1,2]

A. Reexamining Assumptions About Open Learning and the World of Work

A critical reexamination of the assumptions underlying commonly held beliefs about the relationship between open learning and the world of work should be undertaken. Many employers disagree with educators regarding whether educational institutions are the most appropriate place to pursue open learning related to the world of work. Further, educators assume considerable demand for open learning among working adults, and yet substantial entitlements in employer education subsidy plans and union plans remain unused due to worker disinterest.

Moreover, while educators pursue "exciting" and highly publicized open learning initiatives, many involved in employer personnel functions are highly skeptical of the utility of these initiatives. Client input is needed in the design of open learning innovations to serve the world of work.

B. The Relationship of Open Learning to Job Advancement of Adults and Implications for Policy

It is well known[3] that the adults now pursuing continuing education do so for primarily job-related reasons, and that for those adults, pursuit of additional education does usually pay off. These adults are primarily upper middle class in income, job status, and previous education. There is additional evidence[4] that for adults of low income and low previous education,

there is a high interest for continued education but substantial barriers to access. Yet for these clientele groups continued education would have a high individual and social rate of return. While there are many purposes for the pursuit of open learning related to individual development and self-actualization, as well as to the world of work, limited resources demand that a clear social priority be placed on the expansion of open learning services to those adults who need them most for career and job development reasons. Many existing open learning innovations serve neither the low income, low previous education clientele having a high social priority, nor do they provide open learning services related to the world of work.

Open learning activities also have a substantial impact on the skills base of the economy. Given the increased need for change and adjustments to changes in the structure of the labor market and to economic employment dislocation, adult open learning can play a prominent role in this area related to the world of work. In particular, education may be crucial to successful career change of middle-aged and older workers who otherwise prefer the security of lengthy tenure with a single firm.[5]

To understand the relationship of open learning to job advancement of adults and the open learning policy implications of that relationship, a series of issues must be explored.

-- Incentives, costs and benefits of open learning in the world of work: criteria for private and public investment.

-- Priority in open learning services related to the world of work for target clienteles

-- Job and career advancement may have little to do with academic credentials per se

-- Skills and services needed through open learning for the world of work are not traditional academic courses.

(1) Incentives, Costs and Benefits of Open Learning in the World of Work: Criteria for Private and Public Investment

The incentives, cost and benefits of open learning pursued relative to career advancement are complicated research issues requiring priority attention. Organizational, social and individual costs, benefits and incentives must be examined if sound investment policies in adult open learning are to be developed.

Such exploration is important, given growing interest in universal entitlement or paid educational leave types of proposals. While these proposals have attractive aspects they also have very serious flaws,* raising serious research questions. The current education subsidy programs of employers are basically financed from funds which could be used for wage

* See discussion in Part Three, Chapter II of this paper for some discussion of these problems. A more detailed discussion appears in Paper #3, "Financing Open Learning: Varied Needs and Approaches".

increments to all employees, yet the education subsidy is then disproportionately utilized by employees in more advantaged positions. Whether such transfer payments are desirable is open to severe question. Moreover, if, as employers argue, many traditional educational pursuits are basically unrelated to career advancement, then forced savings arrangements involving wage deductions or taxes are difficult to justify unless they are voluntary programs.

(2) Priority in Open Learning Services Related to the World of Work for Target Clienteles

Clear benefits, justifying investment in public resources, can be realized by investing first in those open learning activities which will either improve employable skills for Disadvantaged and Second-Chance clienteles or will increase the skills base in shortage areas of need in the national economy.

Many for whom there is a direct payoff in the world of work from the pursuit of open learning (and these are primarily higher income, job status and better educated workers) pursue that learning, yet large numbers of workers covered by educational subsidy programs do not use them. Once settled in a job, they perceive quite correctly that formal additional education is not likely to have a high payoff in their careers. Many middle-level workers (and their employers) agree that additional degree credentials through the pursuit of open learning will not substantially enhance their employment and career prospects, unless those pursuits are associated with loss of work and the need to retrain or upgrade.

At the lower end of the income and previous education scale many workers' primary concern is to enter more stable occupations. The plight of the low income, low previous education worker is partially explained by the dual labor market theory -- with education being the potential vehicle whereby such an individual can make a transition from the secondary unstable labor market to the primary stable labor market.

For Second-Chance clientele, the issue is not that if everyone in that category had a degree he or she would be promoted to higher level jobs, but rather that for those in that category who have the personal skills and abilities which suit them for advancement, educational certification sometimes is needed to permit that advancement. The issue of the differential benefits from open learning investments for different groups of individuals (and for different employers through different groups of employees) is a serious one for research and experimentation.

(3) Job and Career Advancement May Have Little To Do With Academic Credentials Per Se

Job and career advancement may in fact have rather little to do with academic accomplishments per se; instead it may be a correlate of the fact that those who self-select into continuing education and open learning are in fact those who exhibit the same types of qualities which are valued in the labor market (problem-solving ability, ability to get along with other workers, diligence, reliability, and so on). The high payoff for academic credentials in the past may also be due to the "sheepskin" effect of employers

selecting by an obvious characteristic of the worker, credentials, or a proxy for other qualities. "Overly educated" individuals may be hired to do jobs requiring less education simply because those individuals have the most credentials. This is to some extent an effect of the increasing percentages of young people pursuing postsecondary education.

(4) Skills and Services Needed Through Open Learning for the World of Work are not Traditional Academic Courses

If education, particularly adult continuing open learning, is primarily serving as a selection process in relation to the world of work, then the question must be raised whether that selection could be done more inexpensively and equitably. Perhaps open learning can be justified only as a consumption good and should be supported on that basis. If that is the case, however, then the rationale for open learning in the world of work changes.

The solution lies to some extent in the type of open learning services provided. The expanded open learning services that need to be developed relative to the world of work are not traditional higher education course and program services; rather, new kinds of services related to the development of those skills, characteristics, attitudes and behavior patterns which are needed and in demand in the world of work. Relating adult open learning and the world of work is a very different conceptual issue from the work-education issue currently in vogue with respect to the education of youth. Adult and youth clientele differ significantly as does the adult centered open learning universe from the sphere of youth.

The need for new knowledge about the relationship of open learning and the world of work is typified by the military's current concern with the sort of in-service education which will be most useful to servicemen after they are discharged. There is no evidence, and indeed considerable skepticism, that a college degree will in fact be the most useful in readjusting to civilian life.

Moreover, addressing the problem of "open learning in the world of work" in general terms is too broad to be productive. The more practical approach is what particular skill package defines effective performance in a particular occupation and how can expanded open learning opportunities be designed to teach that particular skill package.

A specific example of open learning related to the needs of the world of work can be seen in the training of managerial skills. It is clear that many public and private enterprises and programs of great value lose effectiveness because of poor management. In general, in a society moving more towards a service economy, managerial skills become increasingly required of a larger percentage of the population in a variety of nonbusiness and nonindustrial settings. Research has shown that there are six key variables associated with managerial ability and performance: administrative skills, interpersonal skills, directional ability, ability of performance in the face of stress and uncertainty, work involvement and career orientation. Expanded open learning opportunities for adults to assist them in cultivating these skills will probably have a high social rate of return. This raises the point of the need for research on what types of skills are in fact train-

able, as well as the design of educational innovations suitable for such training.

Another issue in the relationship between open learning and the world of work is that of job satisfaction and worker alienation. The role that open learning can play in alleviating worker dissatisfaction needs to be better understood, before sizeable investments are made in this area.

C. More Needs To Be Known About Employer-Based Educational Activity

Employer- and union-based and related programs should be examined to understand the effective and efficient flexible ways in which they utilize resources in the education process. Such efforts are fortunately free from many of the rigidities which typify the traditional higher education structure (such as professionalized discipline-oriented faculty and accreditation). Employer-based educational activity exists (a) because of a clearly perceived need to train, retrain or upgrade particular skills bases as they relate to job performance, (b) because employers correctly perceive that they can do this job more effectively and efficiently than traditional academic institutions, and (c) because of the questionable correlation between academic credentials and job performance. Employer-based education activities must be documented in their scope and range before a set of deliberate public policies can be designed to complement these activities for those workers for whom they are not accessible. This whole sector of the adult open learning universe serves more adults than the extension, continuing education and experimental programs of higher education institutions. It should receive corres-

ponding attention in research and development funding.

(1) Reasons for the Existence of Formal Employer-Based Educational Activity

To understand better the phenomenon of formal and informal learning which takes place in the world of work setting, analysis is needed of the reasons why the phenomenon exists (e.g., employee benefit, organization building, employee productivity, etc.). who benefits and who pays and why, the cost-effectiveness characteristics of such training, etc. For different industries and types of companies as well as for different unions the dynamics of educational activity and training activity vary widely. Basic documentation, analysis of clientele, of costs, and of benefits and case study analysis of different employer-based programs and decisions to subsidize employer-based education should be undertaken.

Informal learning in the workplace is more broadly distributed among all types of employers and employees. It ranges from the learning of interpersonal skills or skills in organizational relations and behavior to the acquisition of job skills and "social" or "citizenship" learning about the relationships between the individual and large organizations, and the role of collective action in society.

It is difficult to relate learning outcomes from informal learning in the workplace to traditional formal learning outcomes. Yet it is common for employers to talk about new employees going through a period of "learning the job" or "learning the industry," and employers are quite conscious of

substantial increases in employee productivity after such learning phases are concluded. A much better understanding is needed of exactly what type of learning takes place in these learning phases.

(2) Formal Employer-Based Educational Services Are Not Available to the Majority of Workers

While a vast amount of formal educational activity takes place in employer and union based programs, approximately eighty percent of workers are not unionized and a similar percentage of total employment is in small organizations of one hundred employees or less. Hence, most employees do not have access to formal employer-based educational offerings although they probably could benefit from them. Hence, a significant need for expanded open learning services of the type typically offered in employer and union based programs (rather than those of academic institutions) is identified for employees of smaller companies.

In order to effectively implement all such programs, a better understanding must be developed about the clientele of employer-based education and about the nonparticipants, as well as about employer and union based programs *per se*. Research in this area must be relatively specific, on a level of specific categories of clientele and specific types of open learning services.

(3) Return to Employers From Their Investment in Open Learning

Those who argue for increased open learning related to the world of work do so on the basis of a set of causal assumptions about the relationships between educational attainments and job performance. Postsecondary educational capacity has been built in this country partially on the premise that greater productivity and economic return would result. The experience of the last decade has thrown this premise into severe question, and such questioning is substantiated by research.

From the employer perspective several research issues emerge. Additional education of workers (sometimes even including white collar and professional workers) will not necessarily increase worker productivity, though it could well necessitate an increase in salary. Further, because salary levels in many parts of the economy are contingent on credentials (whether properly so or not is another question), subsidizing further employee education could entail risks or employee loss due to higher salary expectations elsewhere.

A better understanding is needed of the true payoffs in terms of productivity which can be realized by an employer from investing in educational subsidies to employees and how these payoffs relate to return from alternative investments (for example, in new capital equipment). Sometimes the benefits are quite indirect, and amount to the provision of fringe benefits to attract employees, rather than actual investments in human capital development. Decision criteria from employer and union investment in open learning

as well as worker attitudes towards the possibility that potential wage increments will be utilized for these purposes should be explored.

Many employers would place a priority for public investment on open learning to deal with remedial and entry-level skill upgrading. For advanced level skill development related to job performance, employers and unions are often in a better position to accomplish such development than are educational institutions. However, most employers and unions find themselves investing far more in remedial and entry-level skill open learning than they wish to. Public investment in this area could free up resources to be utilized for other open learning activities by those sectors.

D. Increasing the Responsiveness of Traditional Higher Education to the Needs of the World of Work

To increase the responsiveness of traditional higher education institutions to the open learning needs of the world of work, the development of joint programs should be fostered. The current financial environment of higher education has led institutions to look for new sources of income and new clientele, creating an environment which is potentially more responsive to innovations and expanded continuing education services tailored to the needs of employers than has been so previously.

Improved linkages between adult open learning experiments and the labor market must be developed. Cooperative open learning programs patterned after the very successful cooperative education programs at the undergraduate level might provide a useful model. Existing voc-ed and CETA legislation and

employment security legislation potentially can provide funding for open learning experiments that are directed at priority target clientele. Opportunity for considerable leveraging of limited funds could exist, given carefully designed experiments which could draw upon these other resources.

(1) Relating Learning in the World of Work to Academic Learning Without Losing the Distinct Characteristics of Each

There are many reasons for creating structures which permit individuals to convert learning outcomes from different types of learning into equivalencies, but the potential homogenizing influence of such "equivalency" determination approaches must be examined, understood and avoided. The unique character or learning experiences in different sectors and settings must be maintained as better relationships between traditional academic and open learning develop.

Some employers, fearful of such homogenizing tendencies, have refused participation in equivalency determination undertakings on the grounds that (a) the strengths of their programs are precisely in their ability to be flexible and continuously updated; (b) they don't want traditional educators telling them what components should be included in the programs; and (c) employee development and promotion approaches are based on knowledge of job performance, not on academic credentials.

A most significant fact is that a leading corporation in employer-based education (IBM) has elected not to participate in programs leading to course

certification or credit exchange arrangements. Further, many employers and unions participate in such arrangements not because they perceive any particular benefits from them but because they perceive no particular harm and have a "why not" attitude. Hence, the need exists for investments in open learning directed at alternative crediting and certifying of learning outcomes other than the traditional academic credit.

Traditional higher education is not at the center nor is it a major part of the adult open learning universe. With respect to the specific area of open learning in the world of work, this statement is even more true, and research and investment policies should explore this perspective, with substantial efforts to support open learning research and experimentation in sectors other than traditional higher education.

Proprietary institutions pursue their degree of independence quite successfully for some of the same reasons. These findings are fundamental to the development of the needed open learning in the world of work investment policy that will build on the strengths of the several sectors in adult open learning, while avoiding the tendency to fit all learning into the traditional academic mold.

Formal and informal learning in the work setting can be related to traditional collegiate instruction through competency examinations, techniques for awarding credit for life experience, techniques for program and course certification for credit equivalency, and the development of specific linkages between noncredit and degree-granting educational enterprises and tradi-

tional educational institutions. Other options such as licensing, registration and certification examinations, assessment-centered methods, as well as occupational classifications (e.g., the military occupational specialty classification) also apply.

(2) Offering Traditional Degree Programs at Times and Places Convenient for Working Persons, A Consumer Preference

Traditional rigid academic degree programs are justifiably criticized for their rigidity, given the value of credentials in the society at large (independent of their actual job-relatedness) and given the express desires of the Disadvantaged and Second-Chance target clienteles. However these traditional formal degree programs, offered at convenient times and places for these target client groups, and having a content which is career-related are an essential (although not glamorous) expanded open learning service.

(3) Cost/Effectiveness Comparisons of Employer-Based Education Models and Traditional Models

The effect of different teaching/learning formats (for example, short intensive courses typical of work-related education as opposed to traditional long-term courses of higher education) on learning outcomes, and the function of this relationship as subject material and clientele group are varied, is a basic area of needed knowledge.

References

1. The material represented in this chapter is discussed in more specifics in the working draft: Nolfi, George J., "Paper #5 Open Learning and the World of Work", University Consultants, Inc., Cambridge, Massachusetts, July 1975; and the references therein.

2. Appendix "Reference Bibliography on Adult Open Learning (keyed to working paper topics)", University Consultants, Inc., Cambridge, Massachusetts, July 1975.

3. Nolfi, George J. and Nelson, Valerie I., Strengthening the Alternative Postsecondary Education System: Continuing and Part-time Study in Massachusetts, University Consultants, Inc., Cambridge, Massachusetts, 1973.

4. Nolfi, George J., Nelson, Valerie I., Eaglin, Fulton and Miller, Mildred, "#1 Identification and Recommendation of Target Clienteles for the Proposed Open University in Massachusetts", Plan for an Open Learning Network for Massachusetts, draft reports for the Governor's Task Force on the Open University, University Consultants, Inc., Cambridge, Massachusetts, 1973 and 1974.

5. Parnes, Herbert S. et al., The Pre-Retirement Years: A Longitudinal Study of the Labor Market Experience of the Cohort of Men 45-59 Years of Age, Vol. I. (Ohio State University, 1968).

IV. MATCHING THE NEEDS OF SPECIFIC CLIENTELES WITH THE CHARACTERISTICS OF SPECIFIC TEACHING-LEARNING AND DELIVERY SYSTEMS[1,2]

This chapter presents suggestions for research and experimentation relative to the major priority of improved matching of clientele needs with the teaching-learning mode and delivery system characteristics. The major issues addressed are:

- Introduction
- Implications for Choice of Teaching Modes and Delivery Systems for Achieving Clientele Service and Access Objectives
- The Diversity of Learning Styles in the Population
- The Present Knowledge Base -- What we Know about the Matching of Clientele Needs with the Characteristics of Teaching-Learning Modes and Delivery Systems
- A Conceptual Framework for Developing a Knowledge Base for Matching the Needs of Clientele with the Characteristics of Teaching-Learning Modes and Delivery Systems (Defining New Knowledge Needed through Research and Experimentation

A. Introduction

The existing system of continuing and extension education in higher educational institutions primarily serves upper-middle class adult students, as measured in income, job status, and previous educational attainment. A clear social priority for adult open learning should be to "open" access to other groups in the population -- the "Disadvantaged" with great needs for remedial education and job training, and the "Second Chance" clienteles with substantial work experience and skills, but lacking formal academic credentials for further job advancement.

The appropriate teaching-learning modes and delivery systems to meet the needs of these new clienteles are not now being effectively developed in the open learning system. A great deal of exciting innovation and extension of adult learning opportunities is taking place through experimentation and development in the several sectors of the adult open learning universe, but it is directed (intentionally sometimes, but most often inadvertently) primarily at the traditional academic elite currently enrolled.

Such a pattern of research and development produces undesirable results: while a priority for extension of access exists, development of appropriate learning environments for those groups is by no means assured. Initiatives and experiments in open learning are not currently designed from a clear

perception of the need to serve a given target population. Rather, most educational entrepreneurs start from the perspective of the teaching-learning mode itself; as such they often fail to consider whether this new approach will meet the needs of currently underserved clienteles, or simply of those that are currently enrolled.

Such a policy of focusing on the teaching-learning mode effectively co-tinues to exclude currently underserved clienteles. The current uncoordinated development process driven by the initiatives of professional educators might, if unaltered, lead to the following unfortunate result: not only will an elite group of students receive the best education as youths, but it will be the only group which will continue to receive upgrading and further learning as adults. The author has shown elsewhere how the existing system of continuing education and open learning is serving selected clienteles, how it is thus acting to widen rather than to reduce the gap between adults who are at the upper end of the socio-economic scale and those who are at the lower end, and and new state initiatives should focus on target clienteles.[3]

B. Implications for Choice of Teaching Modes and Delivery Systems for Achieving Clientele Service and Access Objectives

The direction taken in research and development and dissemination of new teaching-learning modes and delivery systems has long-range implication for both the success and equity of expanded open learning. Whether open learning and recurrent education become pervasive factors in American adult life will depend on the continued response of the several sectors within the

adult open learning universe to the needs of consumers and the provision of learning services which will attract and hold students.

(1) Financial and Institutional Constraints, not Lack of Interest, Account for Low Participation Rates of Target Clienteles

Current constraints on the extension of access to open learning appear to be more financial and institutional than due to any lack of interest in the population. Surveys unanimously show significant demand for adult open learning services among underserved clienteles (adults of lower income previous educational attainment and job status, grouped herein as "Disadvantaged" and "Second Chance" clienteles). While many innovations claim to address access objectives, those claims are usually substantiated by statements of the form, "72% of our clientele are housewives." Such statements appear convincing but on examination are seen to be rather shallow. Which housewives are they? from which socio-economic groups? of which previous educational attainment level? and how does this group of housewives compare to that group in the population at large who are in need of access? In many instances these questions are not even asked and data are not gathered.

(2) Priority on Designing Teaching-Learning Modes for Target Clienteles

Modifications in teaching-learning modes and delivery systems to meet the needs of target clienteles are a high priority. Importantly, such modifications need not always be dramatic or extensive in character. Since the objective of expanded open learning is to serve new clienteles, then invest-

ments must be evaluated in terms of their cost effectiveness in meeting this access objective.

Research indicates that adult learners have a preference for traditional learning formats involving meeting with an instructor and other students (see discussion in Part Two, Chapter I). However, they want this model offered "on their own doorstep." Expensive forms of mediated instruction, while desirable to develop, do tend to be quite rigid in their uniformity of presentation, and new forms of teaching-learning modes must be explored. For example, the same amount of money expended to develop mediated instruction modes could be used to put traditional and adjunct faculty into automobiles and send them to various community and club meeting places to offer a diverse array of courses on a more less ad hoc basis. Explicit comparisons of such alternatives should be made.

These new modes lead one to focus resources on the identification of demand and the aggregation of that demand into units of sufficient size to which providers can respond. Thus quite apart from the homogenizing and uniform character of large mediated instruction, questions of comparative cost effectiveness must be asked, particularly in view of the fact that many clienteles express distinct preferences both not to study alone in their own homes, and not to learn through mediated instruction.

The question of whether open learning over time will remain an elitist institution in our society or whether it will effectively serve the wide range of nontraditional students which need it most is the central one which

investment strategies must address. The answer to this question depends primarily on the nature of the experiments in teaching-learning modes and delivery systems, in educational and career counseling systems, and in student subsidy mechanisms developed over the next few years.

C. The Diversity of Learning Styles in the Population

The interrelationships between teaching-learning modes or delivery systems and the effective provision of service to particular clienteles stem from several fundamental facts, each of which is discussed below.

(1) Adult Learning Styles Vary

Learning styles vary among the population along several dimensions (preference for learning alone or with a group, on one's own or under close direction, by reading or listening, through abstract ideas or specific examples, with straightforward logic or by analogy). In addition, learning styles change with age since memorization abilities are reduced but the ability to integrate new material with past experience increases. Further, learning styles vary as a function of educational background and practices.

(2) Adult Learning Interests Vary

Interest and needs for education vary within the population ranging from avocational through general education to specifically vocational edu-

cation interests. As has been shown repeatedly, a large majority of adults need and want education primarily for job advancement, but the type of training which is appropriate varies as a function of the particular adult clientele. Importantly, for many of the target clienteles having the highest social priority for expanded open learning, remedial education combined with vocational-technical or other job-related skills development is often in much greater demand than individualized learning models or less practically oriented educational content. This is not to say that the latter are not worthwhile, but simply that social priorities dictate a response first to those needs which unserved clienteles themselves articulate as their highest priority, even if those needs may not correspond directly to the highest priority professional educators hold.

(3) Adult Participation in Open Learning is Determined by Several Factors

A variety of factors determines the participation of target clientele groups in existing open learning programs. Financial constraints are among the most important, but others include location or timing of instruction, requirements for entrance, format, whether remedial work is offered, self-perception of ability to do the work required, and perception of payoff (for example, in terms of the labor market) of the additional learning pursued.

(4) Particular Teaching-Learning Modes have Differential Impact on Subgroups of the Adult Population

Given these differences in learning styles, interests and needs for education, as well as in barriers to participation among different clienteles in the adult population, any particular teaching style or delivery system will have a differential impact on subgroups of the population.

While serving one group of adults quite well, it may effectively exclude participation of others. Hence, pluralistic approaches must be favored, and a first priority for development should be placed on those approaches which serve the needs of clienteles now most effectively excluded.

Three examples of the effect of program design on access are the forced change over the last few years of curriculum of the community college to meet new clienteles, the controversy surrounding the exclusivity of IQ tests and traditional norm-referenced tests and the inappropriateness of part-time open learning and continuing education programs traditionally offered in the evening for the working man for the housewife (who has children in school and needs daytime open learning opportunity).

Higher educators in particular must be aware of the inherent biases which exist in institutions and in new open learning innovations. While aware of the political and social necessity of expanding open learning opportunities for new adult clienteles, the actual design of many initiatives and experiments may not, in fact, facilitate their access.

A more focused effort must be made to design experiments which will specifically serve these clienteles. Unless there is an explicit attempt in

open learning research and development to link the needs of particular clientele subgroups with the development of new open learning approaches, the same types of problems may exist in the future as have occurred in the past.

D. The Present Knowledge Base -- What We Know about the Matching Of Clientele Needs with the Characteristics of Teaching-Learning Modes and Delivery Systems

(1) Inadequacy of Present Knowledge

Knowledgeable professionals in open learning are able to develop detailed lists and categorizations of teaching-learning modes and delivery systems, of clientele groups, of types of learning styles, of interests and needs, and of barriers to participation. Typologies of characteristics of clienteles, of access needs, of characteristics and properties of clientele groups, and of the educational process for each clientele group are outlined extensively following this section as developed in the seminar on the subject of matching clientele needs with the characteristics of teaching-learning modes and delivery systems.

There is general agreement that the link of teaching-learning mode or delivery system to the learning styles, etc., of different clienteles vary quite substantially with the clientele group involved. However, attempts to link teaching-learning modes and delivery systems with learning styles, interests and needs and barriers to participation for different clientele groups is extremely difficult, given the inadequate knowledge base in this area. To be sure, some things are known, such

as the fact that individualized instruction is more appropriate for the well-educated adult than for minorities with poor reading skills and lack of confidence; or the fact that mediated instruction is not very attractive to many adults in the target clientele groups who prefer more traditional formats offered at more convenient locations, and so on. But knowledge in this area is not systematic and it is quite incomplete.

A clear priority for research investment is a systematic development of data that permit relating of (a) an extensive typology of different types of teaching-learning modes and delivery systems to (b) variables which describe the characteristics of those systems to (c) a detailed listing of client groups and the characteristics (praticularly needs and barriers) of those client groups.

(2) What New Knowledge is Needed

One can conceive of a series of matrices depicting the relationships among clienteles and teaching-learning modes; research must fill in the cells in the matrices to the point where definitive statements about particular relationships could be made. Ideally, as expanded adult open learning becomes more sophisticated, teaching-learning modes and delivery systems should be selected and tailored to the needs of particular clientele subgroups. Today we do not know enough about the relationships to permit wise decisions to be made, yet in planning specific open learning systems or initiatives, exactly such trade-offs are made de facto. This results in some of the discrepancy discussed earlier between the intention on the part of many open learning entrepreneurs to expand access

to underserved clientele with innovations that, although well intended, end up serving, for the most part, the traditional elite clientele of higher continuing education.

(3) Research is Needed to Permit Efficient Use of Resources Invested

Another reason why such data are needed is to permit the most efficient use of resources as new investments are made. Such data are needed for predictive analysis of who will benefit from alternative teaching-learning mode or delivery system initiatives which might be funded. One way such research can be developed is through the systematic design of comparable evaluation across a series of different teaching-learning modes. This would yield the development of research and planning data permitting a comparative examination of the effectiveness of various teaching-learning modes as a function of the change in clientele groups.

E. A Conceptual Framework for Developing a Knowledge Base for Matching the Needs of Clientele with the Characteristics of Teaching-Learning Modes and Delivery Systems (Defining New Knowledge Needed through Research and Experimentation)

(1) Conceptual Framework for Analysis

In the background paper on this subject, a conceptual framework is presented which can serve as the basis for research reviews and the identification of critical gaps in knowledge regarding the relationship between teaching-learning modes and the characteristics of particular clientele

groups. Research reviews and project priorities should be developed in accordance with the analytical approaches as presented therein.

(2) Priorities for Research and Experimentation on the Diverse Needs of Diverse Clienteles

Research on adapting and designing teaching-learning modes to serve disadvantaged and special problem clienteles should receive priority. Studies reveal these clienteles want basically traditional education in specific areas, often job and career related, yet they are often not prepared to deal with particular teaching-learning structures and hence have low participation rates.

Adaptive modes based on existing institutional structures need to be developed because (a) target clientels want the "legitimacy" of the traditional education as historically provided, and yet such education has to be adapted to their particular needs and learning styles. It is very clear that for this group, the individualized self-directed approaches which characterize much experimentation in open learning are neither desired nor effective.

Designing teaching-learning modes which correspond to individualized patterns of learning should receive attention. The relationships between the cognitive style needs of particular clienteles and their abilities to utilize certain teaching-learning modes should be developed strongly.

Longitudinal research relating clientele group characteristics to learning experiences is a critical area for research; however, first, basic data are needed on which clientele groups are in fact participating in various kinds of teaching-learning modes and in various learning sectors within the adult open learning universe. Such data should be compared to the eligible populations in each sector. A Coleman[4] type study of educational inputs and outcomes which would assess and analyze existing data would be a very useful beginning for the design of some longitudinal studies.

There operates, a de facto recruitment process and selection process for each teaching-learning mode which must be better understood. Hence, a decision about experimenting with a particular teaching-learning mode is a decision about which clientele will be served, yet this decision is made without an explicit analysis of whether or not that clientele is in fact the priority clientele to be served.

Types and numbers of clientele served in open learning should be continuously monitored.

Relative effectiveness of teaching-learning modes and delivery systems for various clientele demands research and development.

Focus should be increased on "Disadvantaged and Second Chance" clienteles in research and development strategy.

Qualitative and "informal -judgmental" data on practitioners' experiences should be assembled and sifted to develop a knowledge map regarding the relationship between teaching-learning modes and client groups' characteristics.

The clientele of open learning can be divided into three basic categories as outlined below:*

I. Disadvantaged Clienteles

- A. Racial Minorities
  - 1. Blacks
  - 2. "Second Language"
- B. Institutionalized
  - 1. Chronic-Hospitalized
  - 2. Prison Inmates
  - 3. Nursing Home Residents
- C. "Special Problem"
  - 1. High School Dropouts
  - 2. Unemployed
  - 3. Elderly
  - 4. Physically Handicapped
  - 5. Drug Abusers and Alcoholics
- D. Low Income Adults
- E. High Potential/Low Credential
- F. Geographically Isolated Poor

II. "Second Chance" Clienteles

- A Adults who have had some past time received postsecondary level education or training of some sort but who do not have degrees
  - 1. Career Upgrading and Mid-Career Change
  - 2. Formal Vocational Training
  - 3. Other Vocational Training
  - 4. Middle-Aged Housewives
  - 5. Some College Credit/No Degree
  - 6. Middle Class Women Reentering
  - 7. Pre-Retired and Retired

---

* This outline was first presented in Nolfi, George, Nelson, Valerie, Eaglin, Fulton and Miller, Mildred, "Pl Identification and Recommendation of Target Clienteles for the Proposed Open University in Massachusetts" in Plan for an Open Learning Network in Massachusetts, University Consultants, Inc., Cambridge, Mass. 19[illegible], and the seminar participants concurred.

B. Students currently enrolled in non-degree-granting post-secondary level institutions and education programs
   1. Students in Proprietary Schools
   2. Students in employer-based, Union-based, or Armed Forces-based Education and Training

III. Those Who Are Already Making High Use of the Existing Continuing Education System

   A. Those of relatively high previous education, income and job status
   B. Professional groups
   C. Structurally unemployed due to social changes (e.g.,teacher, workers with technologically obsolete skills)
   D. Pre-Retirement

Group III is the group fairly well-served by existing adult open learning opportunities. Groups I and II are high social priorities for expanded open learning opportunities, with Group I costing more to service but yielding greater social benefits, and Group II being quite cost effective. For each of the target clientele groups, the following kind of information should be assessed:

I. Access Needs

Physical (location)
Psychological/Cultural
Financing need and available resources
Timing
Prior preparation and education
Cognitive style
Information
Likely payment of tuition
  -- self
  -- employer
Personal responsibilities bound

II. Characteristics and Properties of Clientele Group

Numbers and availability (temporal and geographical)
Intensity of need
Likelihood of a potential of success
Type of additional education
-- occupational
-- liberal
-- avocational
Intrinsic and extrinsic motivation
Age
Social class
Income
Levels of previous education
Preference for modes
Cognitive style
Content need to learn
Who determines need
-- individual
-- group like a legislative committee
-- society
-- employer
Use client has for learning
Societal-Institutional
-- occupational certificate
-- social goals of society, e.g.,"educated"
-- rules for distribution of social benefits
Individually delivered
Barriers to Participation

III. Processing of Clientele Group

Objectives/Content/Process Needs
-- what content
-- what curriculum
-- certification (what subject areas and what modes)
--adult functioning skills (family context)
-- instruction
-- credit/non-credit
-- counseling, type and extent
-- self-development (individual context)
-- learning styles and preferences
-- type of outreach and marketing
-- job referral, employment, counseling and placement
Occupational certfication
-- for mobility
-- for maintenance
-- teachers, nursery
Upward mobility
-- social
-- financial
-- psychological
Occupational training

References

1. The material represented in this chapter is discussed in more specifics in the working draft: Nolfi, George J., "Paper #4 Matching the Needs of Specific Clientele with the Characteristics of Specific Teaching-Learning Modes and Delivery Systems", University Consultants, Inc., Cambridge, Massachusetts, July 1975; and references therein.

2. Appendix "Reference Bibliography on Adult Open Learning (keyed to working paper topics)", University Consultants, Inc., Cambridge, Massachusetts, July 1975.

3. This concept was originally presented in:
Nolfi, George J. and Nelson, Valerie I., Strengthening the Alternative Postsecondary Education System: Continuing and Part-time Study in Massachusetts, University Consultants, Inc., Cambridge, Massachusetts, 1973.
It was later expanded in:
Nolfi, George J., Nelson, Valerie I., Eaglin, Fulton and Miller, Mildred, "#1 Identification and Recommendation of Target Clienteles for the Proposed Open University in Massachusetts, Plan for an Open Learning Network for Massachusetts, draft reports for the Governor's Task Force on the Open University, University Consultants, Inc., Cambridge, Massachusetts, 1973 and 1974.

4. Coleman, James S., et al., Equality of Educational Opportunity, U.S. Department of Health, Education and Welfare, Washington, D.C., 1966.

V. COMPETENCE- AND PERFORMANCE-BASED ASSESSMENT AND CREDENTIALING OF LEARNING OUTCOMES [1,2]

The several issues of concern in this priority area are each detailed in this chapter. They are:

- -- Uses of assessment to relate learning outcomes between sectors of the adult open learning universe;
- -- Assessment, certification and credentialing to meet social needs;
- -- Alternatives to "academic-course-equivalent competencies" based on fundamental competencies are needed;
- -- Certifying people with credentials other than academic degrees;
- -- Assessing the "noncourse" outcomes of academic degree study;
- -- Avoiding homogenization and social bias in assessment and certification
- -- Developing assessment approaches suited to target clienteles for expanded open learning
- -- Learning outcomes as a basis for educational and career counseling of adults
- -- Development of economical, easily applied assessment techniques;
- -- Needed: development of assessment approaches used in sectors of the adult open learning universe other than academic institutions;
- -- Assembly and dissemination of existing assessment techniques.

A. Uses of Assessment to Relate Learning Outcomes Between Sectors of the Adult Open Learning Universe

Methods, innovations and adaptations developed for serving adult open learners in each sector of the open learning universe seldom are transferable between sectors. In order to foster greater transfer and, even more importantly, to permit learners to convert learning in one sector into the record-keeping formats of other sectors, a greater orientation in all sectors to competency- and performance-based, rather than process and time-based, assessment and credentialing is needed. Open learning as a process is not new, since it has been taking place in noncollegiate sectors of the adult open learning universe for years. What is new is it legitimacy and transferability into traditional academic record-keeping formats. For these purposes a dual strategy is appropriate, including the assessment of individual learning for equivalency, and the evaluation of programs as a whole for equivalency.

There is a need for considerable research in the development of varied approaches to the assessment of competencies and the measurement of performance. No monopoly (with its inherent homogenizing and potential anti-democratic tendencies) over competency- and performance-based assessment for adults, like the monopoly which has existed over college entrance testing, should ever be allowed to develop. Such varied approaches to competency assessment would include objective exams and tests, various forms of expert judgment measures, role-playing tests and exercise techniques, remote observation techniques (e.g., video-tape), development of self-assessment procedures and portfolios, and program evaluation techniques. In addition,

assessment might include related research and individualized instructional programming, based on mapping of cognitive style as well as development of approaches which can be applied on an ad hoc basis such as the use of manuals, guidebooks, handbooks, and so on, as opposed to standardized tests.

B. Assessment, Certification and Credentialing to Meet Social Needs

Deciding upon desirable learning outcomes is inevitably related to social purposes and priorities. Competency and performance standards must be selected on the basis of criteria derived from social purposes, to serve as the basis for award of various credentials and certificates. The determination of the competencies which are appropriate for various certificates and credentials should not rest solely with professional educators, but rather should rest with more socially representative bodies. Hence, the employers and consumers of particular skills should be involved in determination of the appropriate competency structure for certification in that skill area.

C. Alternatives to "Academic-Course-Equivalent Competencies" Based on Fundamental Competencies are Needed

It is important that funding and research agencies address the refinement of competency-and performance-based approaches to assessment, and certification with a broader perspective than simply traditional academic course equivalents. Much of the work to date has been oriented around comparing nontraditional experiences to classroom and exam experiences. While this is

useful, the perspective should be broadened.

Two main themes should be emphasized. The first is, of course, alternative means of assessment certification and alternative credentials to traditional academic credentials. The second is a determination of nonacademic competencies as measures of qualities or extent of learning which have lasting and far-reaching value to the individual. These must include cognitive, affective and skill-job competencies, and deal with issues such as problem-solving, human relations, creative imagination, etc.

D. Certifying People With Credentials Other Than Academic Degrees

To the extent that academic credentials have served as job market sorting mechanisms, the competency and performance-based approaches must question the assumption of the relevance of traditional academic credentials to actual job market performance, and instead focus on the types of skills and personal characteristics which are the true determinants of career performance (with which academic credentials are sometimes, but certainly not always correlated). Efforts should be focused in this area on:

-- the development of competency and performance-based measures of assessment in sectors other than the traditional academic sector (employer-based education, proprietary schools, the military, unions, etc.);
-- the development of assessment techniques for learning outcomes, skills, and personal characteristics which are more

associated with job performance and career development than academic course equivalents;

-- and the development of alternative approaches to credentialing besides the traditional academic degrees.

The "college-credit-equivalency" approach to competency-based assessment and assessment of experiential learning is simply much too narrow for the needs of adult open learning.

A myriad of alternative certification and credentialing mechansisms have been developed by society through specialized degrees (without general education requirements), licensing, job-performance measures, and other arrangements. Many, but certainly not all, such approaches are performance-based. Research should draw from those experiences that which can be applied or developed to permit a better understanding of the relationship between educational attainment and work or career performance.

E. Assessing the "Noncourse" Outcomes of Academic Degree Study

The "noncourse content" benefits of traditional higher education are an important area for assessment since the value of the traditional degree has always been argued by educators to be based on some undefined learning and personal development which occurs over and above the content of courses.

Within the traditional higher education sector, research should focus on supporting competency and performance-based degree and certificate pro-

grams as a whole, rather than simply supporting approaches to assessment of experiential and other learning for conversion into traditional academic credit structures. Limited resources should be targeted on entirely new models of performance-based degrees and competency-based certificates.

Research is needed on the development of financing approaches to education which are outcome rather than process oriented. Ideally, public expenditures in education should be related to learning outcomes.

F. Avoiding Homogenizing and Social Bias in Assessment and Certification

The homogenizing effect of rigid and generally utilized standardized tests (particularly those which are norm-referenced) is well known -- standardized norm-referenced testing has done a great deal to alienate students and to restrict access and progress in education. Criterion-referenced approaches should of course be emphasized. More importantly, however, a diversity of approaches to competency and performance-based assessment and credentialing must be developed, in order to avoid standardization and homogenization. Competency-based assessment approaches to evaluating learning outcomes, if based on a single set of tests, can become as restrictive as traditional process-based modes of awarding credentials.

The homogenizing and restrictive effects of national credit banks or singular approaches to learning assessment and record-keeping about learning outcomes should also be avoided. Instead, state and institutionally based efforts of diverse and pluralistic types should be fostered.

G. Developing Assessment Approaches Suited to Target Clienteles for Expanded Open Learning

Specific competency and performance-based assessment approaches will be differentially useful to different adult clientele groups. Development of a variety of approaches in each competency area is needed and research investment priorities should be based on needs for those "Disadvantaged and Second-Chance" clientele which are social priority clienteles for adult open learning.

What is needed in competency-based assessment and credentialing is a diversity of approaches and a variety of attainment levels. Measurement approaches should be administered in a manner such that the differences in individual rate and progress, by choice and necessity, and that individual differences in styles of learning can be accommodated without penalty to those who do not correspond to the norm. Hence, for fostering the development of competency- and performance-based assessment approaches, a deliberate strategy of decentralization and working with a variety of institutions in all sectors of the open learning universe rather than with single models of a national organization is suggested. For similar reasons pluralistic approaches to the record-keeping of credentials, competencies, and learning experiences, has been recommended earlier.

H. Learning Outcomes as a Basis for Educational and Career Counseling of Adults

The development of a better understanding of the competencies and

performance abilities related to career and social performance is necessary for the development of improved educational and career counseling and guidance services. Data clearly show that adults have a high demand for such services. Yet seldom are counselors in a position to advise an adult well as to the types of educational pursuits which will lead to the development of certain learning outcomes and competencies, which will be specifically related and needed in certain career undertakings. To the extent that this can be done, it is largely at the level of skills (including interpersonal skills) and research should be focused on the several aspects of job related competencies discussed earlier.

I. Development of Economical, Easily Applied Assessment Techniques

The cost of competency assessment and credentialing is a major area of concern, since many current approaches are high cost per person. Low cost approaches should be emphasized including easily applied self-assessment techniques.

J. Needed: Development of Assessment Approaches Used in Sectors of the Adult Open Learning Universe Other Than Academic Institutions

It is in the proprietary school sector, in the employer-based education sector, and in labor union training, that some of the most productive investments in research and development in competency and performance-based assessment and credentialing can be made, given the fact that, historically, educational programs in these sectors have been

specifically performance-based. Such an approach is in keeping with the need to foster a much broader view of the notion of competency-based assessment and credentialing than is typical currently within the education community.

K. Assembly and Dissemination of Existing Assessment Techniques

While a great deal of research, development and implementation in competency- and performance-based evaluation is underway in the several sectors of the adult open learning universe, dissemination and communication among all those working in this area is rather limited. Investment in increasing communication would yield high dividends and foster the application of techniques developed in other sectors.

Given the limited resources, it is important that an evaluation be made of which competencies can be now assessed with confidence and which cannot, so that priorities may be assigned to investments in the development of assessment procedures for particular competencies. Priority should be assigned to work and career related competencies, particularly as they relate to performance qualifications for job clusters and career ladders. At present, even practitioners in the field are unable to develop such a list without considerable research into work being done in the several sectors of the adult open learning universe. This is partially due to the problems of communication between sectors described earlier. Practitioners in each sector of the adult open learning universe should be commissioned to review available approaches used in the sector with which they are familiar.

References

1. The material represented in this chapter is discussed in more specifics in the working draft: Nolfi, George J., "Paper #6 Competence and Performan Based Assessment and Credentialling of Learning Outcomes", University Consultants, Inc., Cambridge, Massachusetts, July 1975; and the references therein.

2. Appendix "Reference Bibliography on Adult Open Learning (keyed to working paper topics)", University Consultants, Inc., Cambridge, Massachusetts, July 1975.

VI. INVESTMENT STRATEGIES FOR FOSTERING ADULT OPEN LEARNING[1,2]

In this chapter, considerations pertaining to the alternative intervention strategies that can be utilized to foster and expand adult open learning are discussed. No attempt has been made to review the recommendations and priorities that appear in other chapters. Indeed, while addressed specifically to strategies for fostering adult open learning, many of the intervention strategies discussed here have more general applicability to investment in several areas of education and other social research and development.

The study of the process of innovation and the factors which influence it have attracted continued attention from scholars and practitioners, and many theories[3] have been advanced with respect to the role of diffusion, of entrepreneurs, of venture money, etc. There is no clear answer to the question, "What do we know about alternative strategies which can be employed to foster the growth of adult open learning, their likely ventures, and their relative effectiveness under various circumstances?" A set of strategies is discussed in this chapter, their applicability to guide investment in certain aspects of the open learning scene is assessed, and research is suggested to improve understanding of the effect of alternative strategies, the phenomenon of research knowledge utilization and the process of change.

Consideration of investment strategies and selection of effective strategies for fostering the growth and expansion of adult open learning

requires attention to several main points:

- -- Investment strategy should be explicitly selected
- -- Federal, state and other roles: costs and benefits of innovation
- -- Strategies of stimulating the demand for or the supply of new open learning initiatives (subsidizing consumers or subsidizing entrepreneurs)
- -- Strategies of fostering open learning by types of services rather than by types of institutions
- -- Strategies of planned complementarity versus spontaneous randomness and parallel experimentation
- -- "Model approach" or "industry leader" strategies
- -- Legitimation strategies
- -- Too much emphasis historically on the funding of demonstrations and various types of projects for innovation in education and adult open learning, with an inadequate amount of evaluative research on those projects as they occurred to determine what they actually accomplished for the resources invested
- -- Dissemination and implementation strategies
- -- Strategies of big experiments and little experiments
- -- The field of adult open learning is still in its infancy, and multiple, simultaneous and competitive funding strategies are appropriate
- -- Matching funds strategies

-- Strategy of focus on discernable gaps in existing innovation patterns and knowledge: taking a long-term perspective
-- Strategy of focus on natural leverage points for innovation in the adult open learning universe and recognizing the limits of responsiveness to innovation in each sector
-- Strategy of building on the entire spectrum of existing resources: the question of independence or integration
-- Meeting resistance to expanded open learning from traditional institutions
-- Potential undesirable outcomes of innovative trends
-- The strategy of linking existing resources and understanding the effect of intervention modes

A. Investment Strategy Should Be Explicitly Selected

Fundamental assumptions regarding the implicit objectives of innovations in open learning and the implicit criteria inherent in the particular boundaries selected for defining "what is innovative" must be examined. Innovations often are undertaken without an explicit statement of the objectives of the innovation. When objectives are stated, often they are not stated with reference to social needs and priorities.

Moreover, many innovations in postsecondary education (and probably other areas of the open learning process as well) are sometimes argued in terms of their technicalities and their characteristics according to views of traditional educators. In fact, many of these "non-traditional innovators" are new only to those traditional higher educators and have existed for years in other sectors of the adult open learning universe.

There are several strategies which can be adopted with respect to stimulation of innovation in a system as pluralistic as the existing system of open and recurrent learning in the United States. For example, financial strategies can vary between the two extremes of total demand subsidy or total supply subsidy. (Examples include the provision of student aid funding vs. the placing of large amounts of money into the development of totally new or innovative institutions.) Thus, corporate tuition assistance plans are examples of "clean demand subsidies" while the University of Mid-America project is an effort which implies a strategy to build capacity and supply for the provision of innovative educational services.

In each of the sections below, realistic strategies have been defined. A set of questions surrounding particular strategic alternatives is asked, and their relative merits and demerits discussed in pragmatic rather than abstract terms.

The long term question is what new knowledge from research or experimentation is needed to permit the making of intellegent public policy and public investment choices among the various strategies, and therefore, what types of research development investments should be made in order to facilitate the development of the necessary knowledge base. For the present, investment strategy decisions must be based on available evidence as illuminated by analysis.

Limited resources are available at the federal level for the fostering of innovation, experimentation and the expansion of adult open learning. These resources must be invested wisely. Any particular pattern of investment carries with it an implicit strategy whether de

jure or de facto. Investment strategies should be quite consciously selected. Recommendations are outlined in sections B. through O. below. In each section, the implications of the alternative strategies are discussed and the types of research and development investments which that particular alternative would prescribe are indicated.

B. Federal, State and Other Roles: Costs and Benefits of Innovation

A second major consideration for a research and development investment strategy is the appropriate mixture of state, federal and other roles. Investments must be selected with care, and any funding agency should strive to invest enough funds in particular research or experimental projects to make them effective--but no more. Given the fact that resources are limited, a parsimonious perspective with respect to research and development investments is justified. It becomes important for each funding agency to be aware of the roles of other investors in educational research and development.

State and philanthropic sources of funding in the aggregate have far more disposable resources to effect change in education, the development of new knowledge, and the initiation of new experiments than do some federal agencies. For modest resources to make the maximum difference, particular attention must be paid to discerning those areas where other funding sources are not making adequate investments. Fads and fashions afflict research and innovation in open learning as they do in any other field, and a conscious policy to look for gaps in the investments being made from other sources in order to identify high priority investments would probably yield high dividends.

Responsibility for stimulation of access and of research and innovation and experimentation rests particularly with the federal government. While subsidies to consumers of open learning services should rest primarily with individual consumers or with their employers and other sources. The exception to this is subsidy to particular target clienteles. A strong argument can be made here that state and other sources should be used as well.

Federal investments should be carefully made so as not to simply replace state and private investments. Given the market character of continuing education and adult open learning, and the fact that most of the activity is funded by private investment, the following question must be asked about new innovations which will be funded: "Why have these innovations not already been funded by private sources like so many other activities in the open learning universe?" The answer will or will not support public investment, depending on the specific circumstance.

If open learning initiatives are to be sustained by continued public investment, that long term public investment will probably have to come from the state. A classic problem with federally funded initiatives is that when the federal funds stop so do the innovations. An important element of strategy for fostering open learning should therefore be in the clarification of federal, state and other roles so as to determine how federal leverage can best be designed to maximize state initiatives and maximize state maintenance of federal initiatives which have proven successful.

C. Strategies of Stimulating the Demand for or the Supply of New Open Learning Initiatives (Subsidizing Consumers or Subsidizing Entrepreneurs)

Innovation in and expansion of adult open learning can be stimulated by funding supply (e.g., educational entrepreneurs) or demand (e.g., consumers). The subsidy of supply has been the typical way in which research, innovation and demonstration in education has historically been funded. In cases where demand subsidies have been tried (for example, in the student grants), programs have been structured such that the real choices available to a recipient of grant funds are quite narrow. (For example, a student may only tender a grant at an "accredited postsecondary" institution recongized by the Office of Education, a very small fraction of the total universe of providers of adult open learning services.) Both supply and demand subsidy approaches to funding open learning should be employed.

The adult open learning universe operates much more along a market model than does traditional higher education, and this consumer responsiveness is one of its great strengths. Demand subsidy approaches to stimulating innovation are therefore most appropriate. Further, if demand subsidies are to provide maximum stimulus to innovation in the education world as they do in other sectors of the economy, then ways of aggregating the demand so that it will be focused are also needed to further enhance adult consumer power.

More demand subsidy approaches ought to be tried, particularly given the social priority of assisting certain target client groups. These groups, given proper demand subsidies, could stimulate considerable responsiveness in the system. It should be noted that the bias towards

supply subsidies stimulating adult open learning comes partially from the characteristics of traditional higher education wherein consumer pressure is not a very effective determinant of what services are offered. However, the evidence is overwhelming that in the adult open learning universe a fundamentally different set of operating assumptions apply. What is needed is for the now undeserved target clientele groups to be given greater power to influence the system through demand pressure.

Whereas traditional higher education has strong elements of professional control over the determination of supply and services to be offered, the adult open learning universe is just the opposite with a very high degree of consumer control. This is partially due to the different funding patterns (in the adult open learning universe most services provided are financed out of revenues from the purchasers of those services rather than through endowment or public subsidy of suppliers). It is also due to the nature of the clientele. In youth postsecondary education it is presumed that the basically uniform process, through which all youth should be put so as to have common socialization patterns, is desirable; exactly opposite premises apply for adult education.

Demand subsidy approaches are in tune with the natural operating character of the adult open learning marketplace and are supportive of some of its attractive characteristics, primarily the responsiveness to consumer demand (through individual contributions and through block purchase of services or learning arrangements from employer groups, unions and so on). Demand subsidy approaches require increased attention to the advocacy of consumer preferences and to the determination of what adult learners in fact want as opposed to what educational entrepreneurs wish to implement.

Greater involvement of consumers of open learning in any research and development investment decision making process would reverse the present emphasis on supply subsidy. This is true because the present excessive emphasis on supply subsidy, almost to the complete exclusion of demand subsidy, is the result of implicit decisions made primarily because the decision-makers tend to be suppliers rather than consumers of educational services.

Counseling and referral centers that are community based potentially provide an important vehicle for aggregation of demand. For example, given the desire to stimulate innovation to serve a disadvantaged clientele group, cash vouchers for these clientele would constitute, when aggregated through a counseling center or some other vehicle, a substantial buying power for new forms of educational services particularly well suited to that disadvantaged population in a given geographic area. When demand is adequate, institutions will respond and indeed respond in a competitive fashion providing even more stimulus to innovation. Hence, the strategy of using demand subsidies as an option for research and development to stimulate innovation is important.

D. Strategies of Fostering Open Learning by Types of Services Rather than by Types of Institutions

For investment purposes, the universe of providers of educational services can be viewed in basically two ways: first, classes of institutions or providers (colleges, universities, proprietary schools

etc.) and second, types of services (instruction in standard classroom format, remote mediated instruction, counseling services, instructional services by particular subject areas, etc). Typically, strategies of investment in research and development of education have been oriented towards viewing classes of providers of educational services or classes of clientele. The latter focus, however, is not given as much weight as it would appear to warrant.

Importantly, attention is focused on different sets of policy and public investment questions when the "types of services" perspective is taken. For example, one no longer asks "what should a particular community college system do" but rather, "given the array of public, private and proprietary postsecondary educational opportunities at the first postsecondary year level, what should the state do to maximize the effective utilization of these resources to meet particular defined needs?"

Although in some cases examination by classes of providers is necessary (as noted elsewhere in the paper) a fresh set of research questions is raised by adopting a perspective of analysis in terms of consumer service catergories rather than by classes of providers. Assessing investment opportunities in the adult open learning universe across provider sectors and by types of services and by classes of consumers makes far greater sense in adult open learning than does planning by classes of providers.

E. Strategies of Planned Complementarity versus Spontaneous Randomness and Parallel Experimentation

A strategy of planned complementarity in research and development investments is to be preferred over an approach relying on spontaneous randomness and parallel experimentation. The extremes of these two cases may be characterized: on the one hand by a deliberate effort to determine probabilistically the likely outcomes of research investments and the application of a discounting methodology to possible investments to determine the one which has the highest discounted present value. The alternative approach would "let a thousand flowers bloom" on the expectation that some of those "flowers" will be truly outstanding and will yield seeds which will be highly valuable for dissemination elsewhere. The issue is not merely a rhetorical one, for in the face of a limited budget and a vast array of unknowns and unanswered questions in the open learning field, choices about resource allocation must be made.

A pattern of research and experiment investments should be planned which, while meeting certain service objectives, are sufficiently interrelated such that when completed they will have collectively produced a new pattern of knowledge answering some of the more difficult and pervasive questions in adult open learning. A classic example of this is the research needed in the area of teaching-learning modes and delivery systems as they relate to the characteristics of different clienteles and groups of learners. A planned pattern of research investments which will each yield peices of the "knowing puzzle" are needed (see discussion in Part Three, Chapter IV).

Further, the strategy of multiple funding of parallel projects should be incorporated with initial and terminal evaluation components. In this way comparisons of different approaches to the solution of the same problem may be evaluated. It is important that this method be followed in order to permit the most effective continuous reformulation of research objectives and priorities in adult open learning based on knowledge obtained.**

F. "Model Approach" or "Industry Leader" Strategies

The "model demonstration" or "industry leader" strategy is based on the assumption that if certain institutions innovate, then other institutions will follow. If that is the case, then one's investment decisions should be skewed towards identifying the lead institutions and the lead models. For example, one can surmise that one of the reasons certain major curriculum innovations in this century achieved such a widespread replication throughout postsecondary education was that they were initiated by institutions generally considered leaders, whereas a possible reason why many innovations and experiments of various types in smaller institutions have not been replicated is that they were not undertaken in "lead" or "trend-setting" institutions. The issue is not well understood and needs research, but is an investment strategy worth considering in open learning in each of the separate sections of the adult open learning universe.

** The Fund for the Improvement of Postsecondary Education has not followed the strategy of parallel project funding and built-in evaluations, a weakness in the FIPSE research program which is attracting increasing concern.

G. Legitimation Strategies

Legitimation of innovations and of varied activities in the adult open learning universe can be used to foster experimentation and innovation. There is evidence that historically constraining influences such as accrediting associations in the higher education secotr have restrained innovative departure from the norm of educational services. Yet in other cases the ability of certain bodies to legitimate innovations has contributed markedly to their success (for example, the New York Regents creating the Regents Degree Program).

Legitimation strategies per se have not been a major concern of federal strategies for intervention in education, with the exception of the Newman Task Force's[4] recommendation that institutional eligibility for federal funds be separated from the accreditation process and be independently performed. Such intervention strategies would probably be more constructive in many settings that their limited use would indicate.

Legitimation strategies in the area of adult open learning should focus primarily on increasing the flexibility with which legitimation (primarily through accreditation and degree granting) of learning experiences is granted. In addition, pluralistic forms of legitimation should be encouraged.

Thus, in the long-run, it would be in the best interests of expanded open learning if there were a much wider variety of alternative degree and certificate structures than the restrictive number of degrees now

available, if these structures were neither limited nor monopolized by the traditional academic higher education structure, and if they extended into the other sectors of the adult open learning universe. Legitimation strategies are tricky because they can easily become factors leading to rigidity in the system. Applied improperly, legitimation strategies can have profound homogenizing, and inhibiting influences on the process of innovation; all the more reason why they should be applied in a diverse and pluralistic fashion.

H. Too Much Emphasis Historically on the Funding of Demonstrations and Various Types of Projects for Innovation in Education and Adult Open Learning, with an Inadequate Amount of Evaluative Research on those Projects as They Occurred to Determine what They Actually Accomplished for the Resources Invested.

Although substantial open learning activity has been underway for years and new innovation and initiatives appear regularly, the fact is that great gaps exist between our knowledge from existing and past projects and needed knowledge. Whatever wisdom about understanding open learning has accumulated from that activity, and the processes by which it may be advanced and expanded, relies almost totally on "oral history". An analytical perspective that can guide a research strategy is needed, and this paper attempts to develop such a perspective to a point of specific utility by specifying areas in which research development, experimentation, and evaluation would be concentrated. In this connection, an emphasis on empirical, evaluative research of "demonstrations" is absolutely essential.

A continuous effort to assemble, sift through, and publish state of the art reviews in various subject areas within adult open learning should be instituted. Such reviews are published with regularity in scientific

fields (e.g., Chemical Review). In the seminars, discussion about the development of "knowledge maps" (essentially, state of the art reviews which try to highlight what is known in the literature and what is not known in the given area of adult open learning) made clear the need for a continuous monitoring of the status of knowledge in various sub-areas of adult open learning. Bottlenecks in knowledge could be identified and substantial leverage achieved if new knowledge produced by a research or demonstration project were thus disseminated. High priority areas for pinpointing research investments would then be delineated. Initially, it is suggested that the conceptual framework presented by this series of working papers be used to define several areas in which efforts to prepare state of the art reviews would be commissioned.

Evaluation of open learning initiatives should include evaluation of the output of the initiatives (whether that output be trained individuals or instructional materials), and evaluation of the process by which the open learning intitiative was implemented. The latter is important so that a better understanding of that process can develop, thus enhancing the likely success of further attempts at implementation.

For example, evaluative research is needed on the problem of access for adult clienteles. This research must include a study of the educational philosophies in relation to educational outcomes as they affect open learning, as well as a differentiation between types of approaches toward adult open learning and the assumptions of how people learn on which each approach is based. It is well-known, for example, that one of the main reasons that expanded open learning services are needed is that many potential adult clients who want to pursue continued education are not able to do so.

Moreover there are enormous resources available in the several sectors of the open learning universe, and yet these opportunities for provision for expanded educational services are not effectively linked with the demand of excluded adult clientele groups. Hence, research on the factors which will effect greater responsiveness in the several sectors is needed.

If access is a central objective against which experiments will be evaluated in fostering increased adult open learning, then the phenomenon of access itself must be more precisely defined. In simple terms access can be achieved by providing available educational services in a different way, by providing new educational services in a new way, and providing new content in existing educational services.

These characterizations are presented only to support the contention that a broad view of what constitutes innovation and advancement in the area of open learning must be adapted in any investment strategy. Moreover, a careful plan for evaluating the results of experiments against social objectives served by open learning and against the results achieved with similar amounts of resources invested in alternative experiments should be followed.

I. Dissemination and Implementation Strategies

The use of dissemination-implementation strategies, as opposed to apporaches to try out and demonstrate new ideas, should be expanded. Most familiar with education innovation (be they educators or Congressmen) will agree that an excessive emphasis has been placed on proving the viability of theories and program ideas with inadequate attention to

their evaluation and dissemination. Indeed, the history of educational innovation is filled with examples of various ideas "demonstrated" in "pilot projects" which die when the discretionary and usually limited funding on which they were based ran out.

It is with good reason that attention in recent years has turned to the need for more research, evaluation and dissemination of demonstrations which have been done or are in process. More emphasis is gradually being placed on the dissemination of what is known about what can be done and how to implement is. Hence, in the face of limited resources, a heavy emphasis on dissemination and implementation strategies combined with research and evaluation of ongoing demonstration projects could prove more beneficial than simple continuing to test out new experiments at particular institutions. The undertaking of a deliberate effort to achieve replication of experiments elsewhere is usually not funded, but it should be. The role of invisible colleges, communications networks, specific contacts with grant applicants who have been turned down, and the utility of brokerage approaches or extension agent types of approaches should be investigated.

One of the problems in the adult open learning area is that the innovators from the traditional higher education sector have constituted an active group, an "invisible college", but that group is much too narrow and homogeneous, given the spectrum of the adult open learning universe. National conferences on open learning are usually examples of innovative educators talking primarily to themselves, for few representatives from other sectors of the adult open learning universe attend or are invited. The same could be said for meetings of the national proprietary school associations or of employer education and training personnel.

Hence, communication networks have to be created between invisible colleges across sectoral lines within the adult open learning universe. Targeted dissemination approaches rather than general "information availability on a computer" approaches will be far more effective.

A good example of the need for evaluation and dissemination, as suggested in this section and the preceeding one, is the matter of testing. The educational community has been preoccupied with norm-referenced rather than criterion-referenced testing. This one-sided view has led to a false notion of educational rigor, and has created artificial perceptions of the lack of rigor in open learning approaches which tend almost by definition to be criterion-referenced (that is to say, what a person knows relative to what could be known in a particular desing subject area is more important than when or where that person learned it relative to his or her peers). Comparative investigation and dissemination of curricula, learning objectives and outcome assessment techniques between different learning settings and sectors within the adult open learning universe would provide important new knowledge and help break the grip of singular approaches to measurement and testing.

A well-known and highly successful example of dissemination strategies in fostering innovation have been the efforts of the agricultural extension service, although historically these have not been referred to as "open learning opportunities". The same is true of a host of efforts of employers, unions, proprietary schools, and other organizations. Dissemination of the experience gained in one sector of the open learning universe to other sectors is a serious need.

Indeed, comparative studies in the several open learning sectors would yield considerable information on approaches to open learning which could be transferred from one sector to the other. For example, the simple offering of traditional courses in an agri-business management program outside of existing colleges and in locations where those involved in agri-business find them easily accessible geographically and temporally would not be regarded as an "open innovative practice" by some in the education community. However, examination of the experience of the agricultural extension service (and indeed many employer-based education activities as well as the military) would reveal the enormous potential of this rather "mundane innovation" if it were applied by traditional academic institutions. Traditional higher education could learn a great deal from such investigations.

Astute observers of the open learning phenomenon have noted that the phenomenon of newness appears to bring great rewards within the education profession. "New" departures and innovations typically receive a great deal of fanfare and attention for their first couple of years and then receive very little. This pattern is relevant to investment strategies for two reasons. First, it indicates an over-valuing of newness in open learning initiatives, and second, it probably accounts for part of the erosion of innovations observed to occur after their first few years. Given less outside support, the innovations themselves, even though they may have demonstrated success, are in a weakened position politically vis-à-vis traditional opponents and "newer" initiatives.

Case studies of selected open learning innovations will shed light on this problem and will provide information about the delicacy of institutional survival and change. As mentioned earlier, these two factors must be of

concern in a basic strategy for fostering open learning which is centered around client groups and classes of services rather than types of institutions. Such information would help determine how dissemination strategies might be most effectively employed.

J. Strategies of Big Experiments and Little Experiments

Funding agencies face an unavoidable choice of devoting a fixed amount of resources to a small number of large experiments or to a larger number of small experiments. There are arguments to support each approach, and it is not possible to determine which is most appropriate in the abstract. Proper application of this strategic consideration requires systematic consideration of the particular area of education in question.

With respect to adult open learning, a mixture of large experiments and small experiments is needed. Large experiments should be carefully scrutinized in terms of the trade-off of results possible for the same amount of money spent on a smaller series of experiments. For large experiments, built-in evaluations become particularly important, as does clarity of objectives and the careful design of experiments such that they in fact address and will answer some of the pervasive uncertainties and gaps in knowledge for which the research demonstration program is being funded. In addition, it is important in these experiments that the matching funds strategy outlined below be applied.

K. The Field of Adult Open Learning is Still in its Infancy, and Multiple, Simultaneous and Competitive Funding Strategies are Appropriate

While the existing adult open learning universe (as argued elsewhere in this paper) is truly a massive and diverse activity, much remains to be done and many adults who want open learning services are not receiving them. It is important to undertake assessments and comparisons of alternative ways of achieving the implicit and explicit public policy goals associated with adult open learning. In order to do this, adult open learning must be viewed much broader than the universe of traditional higher education or even postsecondary education institutions, and including the whole range of adult continuing and recurrent education efforts and projects conducted in a variety of sectors within the open learning universe. Gaps in existing knowledge and experimental demonstrations must be identified.

Hence, multiple, simultaneous and competitive funding strategies are appropriate so that, for example, similar initiatives in the provision of counseling services to adults can be tried in the several sectors within the open learning universe.

L. Matching Funds Strategies

One of the perennial problems with innovations and reforms in education is that when the discretionary venture money with which they were started runs out, the innovation grinds to a halt. Strategies of investment requiring matching funds from other sources should be designed to achieve maximum impact of limited resources. The advantage of this approach is that it

leverages funds by drawing money from other sources, and, further, that the arrangements are a good way of building local and state support for particular initiatives. Multi-year funding cycles and arrangements whereby an increasing percentage of the total funding for a project must be provided by other sources have been attempted to alleviate this problem in some education R&D investment with some success.

Matching funds strategies are important, however, for several reasons other than limited resources. These include (a) the pluralistic nature of the financing of the adult open learning universe and the diversity of sectors within it, and (b) the fact that such strategies maximize the likelihood of survival of innovations once federal seed money ends. Hence, developing ways of implementing joint funding and matching strategies could provide enormous leverage on the open learning system and should be considered a priority.

M. Strategy of Focus on Discernable Gaps in Existing Innovation Patterns and Knowledge: Taking a Long-term Perspective

It is fairly clear that the spontaneous process of research and initiatio of innovations leads to an uneven advance of the frontiers of knowledge and practice. This uneven advance is not necessarily bad, indeed it may be a very positive phenomenon, for it helps to advance a field in those areas where there is natural interest in the pursuit of research and where there is a perception on the part of researchers and practitioners that something can be done. Once those advances are made however, gaps between points of advance are highlighted. Researchers should emphasize the identification

of these gaps in existing patterns of innovation and knowledge in adult open learning and focus investments on those gaps. Particular fads and fancies within the education professions should not be allowed to divert resources and attention to "glamorous" projects when a planned pattern of basic research indicates other investments would yield greater long-term impact.

A substantial effort should be devoted to defining gaps in existing innovations and knowledge production patterns to guide subsequent research investments. The purpose, setting and thrust of this report and the supporting seminars and papers is in line with this type of strategy. As recommended in another section, regularly commissioned "state of the art" reviews of research needs should be supported to assist in monitoring the progress of the knowledge base.

N. Strategy of Focus on Natural Leverage Points for Innovation in the Adult Open Learning Universe and Recognizing the Limits of Responsiveness to Innovation in Each Sector.

Research and development investment strategy should focus on identifying the natural leverage points for innovation within the several sectors of the adult open learning universe and recognizing the limits on the innovative responsiveness of each type of provider in each sector. The identification of points for the facilitation of innovation could, for example, lead to an innovation strategy focused heavily on educational entrepreneurs who are in positions of leadership and influence. Or it might focus on identification of certain public and legislative concerns (e.g., welfare dependency, unemployment, regional economic development,

and so on), and the devotion of research and development investments in those areas. The former conclusion has guided some investments in the past. The latter would be most appropriate for the future. When properly used in funding strategies, such leverage can achieve much larger changes in open learning than would be possible with the individual investments alone.

Other natural leverage points include unique non-replicable circumstances or significant power (as with the legislative passage of an act at a state level), and discipline and trade associations. State agencies constitute particularly strong natural leverage points and it is at the state level that the greatest leverage for federal dollars invested can be achieved, provided those dollars are wisely invested. (State agencies here is of course a broadly conceived term and goes beyond the traditional higher education agencies.)

As part of implementing this strategy, understanding is needed of why innovations will take place and survive in certain settings and not in others, and an understanding of the natural limits of responsiveness of various sectors within the open learning universe.

Importantly, approaching research investment in adult open learning from such a persepctive leads to the conclusion that opportunities for investment in sectors other than the traditional higher education sector are a priority opportunity to be capitalized upon in expanding open learning.

O. Strategy of Building on the Entire Spectrum of Existing Resources: The Question of Independence or Integration

Existing resource should be considered as the locus for building new initiatives rather than creating whole new enterprises. This strategic approach has advantages and disadvantages. A new initiative which fights for its life within the confines of a traditional structure probably has some longevity assured once it has gained life. New initiatives external to the basic existing structure of resources in education, while easier to start, often need their reason for being reaffirmed daily. Not enough is known to say with any certainty which of these basic approaches is likely to be most fruitful. Even within the strategy of building on the spectrum of existing resources, that building can create new and independent initiatives or integrate those initiatives into the existing pattern of operation.

Diversity, pluralism and sectoral independence within the open learning universe are needed, but so are improved relationships and linkages between the sectors. Higher education should not be seen as the base from which open learning is expanded, but rather as one of the contributing sectors in a whole new conception of adult open learning.

From an experimental standpoint in implementing this strategy, projects should be funded which will develop linkages and create networks of existing educational resources in a particular geographic area. Documenting information on resources in a given area and convening planning sessions and conferences with groups of people in that area to foster the formation of deliberate linkages is exactly the type of low profile, active approach which will, in the long run, be most effective.

The rationale for the approaches suggested in this section (particularly for the use of existing resources and creating linkages) is developed in more detail in other sections of this paper.

P. Meeting Resistance to Expanded Open Learning from Traditional Institutions

Related to the issue raised above in section O, resistance to initiative and experimentation in education can be met head on or avoided. The strategy of starting innovations by side-stepping the existing structure is well known and practiced throughout education with mixed results. Confronting resistance directly in dealing with the problem often results in slower progress towards innovation but can in the long run yield greatest stability of the new form.

The problem of resistance in the context of expanding adult open learning appear most within the traditional higher education sector. Conceiving of the adult open learning universe more broadly, the problem becomes proportionately less severe. Rather than trying to reform higher education in order to achieve expanded open learning services for adults, a more effective, rational strategy would deal with other sectors in the adult open learning universe (for example, employers, unions, or proprietary schools which are more tuned or willing to meet adult needs). Traditional higher education should not be totally bypassed, but the mandate and constituency of expanded open learning is much broader. The differential responsiveness of the several sectors of the adult open learning universe to adult needs should be seen as a strength for new initiatives.

Q. Potential Undesirable Outcomes of Innovative Trends

Innovative trends in open learning can have unanticipated adverse effects. For example, the trend towards competency assessment, particularly the highly rigid course-equivalent or credit-equivalent competency assessment approaches, can be quite constraining and have a profound leveling trend on the sectors of the open learning universe. For many, converting everything into academic credit is tantamount to a lowest common denominator approach. The diversity and vitality of the several sectors in the adult open learning universe is a function of the relative independence of each of these sectors in the past. For example, sensing the leveling effect of the "credit equivalency" movement, the IBM Corporation has refused to participate in efforts to determine college credit equivalency for its massive education enterprise. Awareness of this strategic consideration suggests funding competency assessment and performance based measurement efforts which are associated with alternative credentials or with no credentials at all rather than only with degree credit. Such experiments should take place in sectors of adult open learning other than simply higher education institutions and organizations.

Innovation is, of course, a mixed blessing. Hence, one consideration in the fostering of new experiments is the design of built-in evaluations which will highlight desirable and undesirable consequences. Such regular evaluations of experiments and innovations funded and fed into the ongoing decision process on new investments would improve the effectiveness of investments made.

The various options for strategy with respect to funding research and development in education discussed above are analytically conceived. Adequate research data to permit definite choices among analytically conceived strategic alternatives is simply not available and informed good judgment must suffice while the knowledge base is cultivated. It is clear that an important concern in overall research and development investment strategy should be the building of the knowledge base in understanding how change takes place in education, and even more importantly how knowledge generated through research and demonstration undertakings can be replicated and implemented.

R. The Strategy of Linking Existing Resource and Understanding the Effect of Intervention Modes

A better documentation is needed of the range and scope of activity which is taking place in the various sectors in the open learning network. Creation of linkages between providers of various services permits this extensive activity to be easily expanded (this point is developed in detail in the chapter on "Utilizing Existing Resources"). Most importantly, the deliberate experimentation with modes of linking the potential of the several provider sectors in some particular geographic area so that these resources together would collectively constitute the unified open learning resource for that area is fundamental research. This "network" of resources in fact would constitute an "open learning institution", though not in the usual sense.[5]

References

1. The material represented in this chapter is discussed in more specifics in the working draft: Nolfi, George J., "Paper #7 Strategies for Fostering Open Learning", University Consultants, Inc., Cambridge, Massachusetts, July 1975; and the references therein.

2. Appendix "Reference Bibliography on Adult Open Learning (keyed to working paper topics)", University Consultants, Inc., Cambridge, Massachusetts, July 1975.

3. Newman, Frank, et al., Report on Higher Education, U.S. Department of Health, Education and Welfare, Office of Education, Washington, D.C., 1971.

4. Newman, Frank, et al., National Policy and Higher Education, Report of a Special Task Force to the Secretary of Health, Education and Welfare, Office of Education, Washington, D.C., October 1973.

5. Nolfi, George J. and Nelson, Valerie I., Strengthening the Alternative Postsecondary Education System: Continuing and Part-time Study in Massachusetts, University Consultants, Inc., Cambridge, Massachusetts, 1973.

APPENDIX

LIST OF PARTICIPANTS IN DISCUSSION SEMINARS CONVENED DURING THIS STUDY

LIST OF PARTICIPANTS IN DISCUSSION SEMINARS CONVENED

DURING THIS STUDY

The author wishes to express his appreciation to the persons listed below who participated in the six seminars conducted during the course of this project. Their comments and discussion were most helpful in preparing the working papers and the final white paper.

Participants in the seminar on Expanded Postsecondary Open Learning Opportunities through the Utilization of Resources and Initiatives in the Several Sectors of the Existing Open Learning Universe

Dr. James D. Brown, President, Thomas A. Edison College

Dr. Bruce Hamilton, Executive Director, Council for the Progress of Nontraditional Study, Institute for Educational Development

Dr. Leland L. Medsker, Project Director, Nontraditional Education Study, Center for Research and Development in Higher Education

Dr. Gloria Scott, Program Manager, National Institute of Education

Dr. David Sweet, President, Minnesota Metropolitan State College

Dr. Armen Tashdinian, Director, Office of Planning, National Endowment for the Humanities

Dr. Eugene Weldon, Chief, Community Services and Continuing Education Program

Mr. Jerome Ziegler, Commissioner of Education, Pennsylvania

Participants in the seminar on Financing Open Learning

Dr. Joseph Boyd, Executive Director, Illinois State Scholarship Commission

Dr. Stephen Dresch, Professor of Economics, Yale University

Dr. Richard Hupp, Education Plan Administrator, Kimberly-Clark Corporation

Dr. Dean Jamison, Research Economist, Educational Testing Service

Dr. Bruce Johnstone, Executive Assistant to the President, University of Pennsylvania

Dr. George Kaludis, Vice Chancellor, Vanderbilt University

Dr. Jerome Lord, Program Officer, Program for Technological Applications, National Institute of Education

Dr. Ernest Palola, Assistant Vice President for Research and Evaluation, Empire State College

Dr. Robert Pitchell, Executive Director, National University Extension Association

Mr. Raymond Wormwood, Contracting Officer, National Institute of Education

Participants in the seminar on Matching the Needs of Specific Clienteles with the Characteristics of Specific Teaching-learning Modes and Delivery Systems to Design Effective Open Learning

Dr. Paul Delker, Director, Adult Education, U.S.O.E.

Dr. Dennis Gooler, Director of Research and Evaluation, State University of Nebraska

Dr. Jessie Hartline, Associate Professor of Economics, Rutgers University

Dr. Dorothy Knoell, Higher Education Specialist, California Postsecondary Education Commission

Dr. Thomas Leach, Director, Educational Opportunity Center in Brooklyn

Dr. Francis U. Macy, Director, Regional Learning Service of Central New York

Dr. George McCabe, Director, The Consortium, California State University and Colleges

Ms. Valerie I. Nelson, Faculty Member, J.F.K. School of Public Policy and Policy Administration and Associate, University Consultants, Inc.

Dr. Jerrold Sandler, Senior Research Associate, Productivity and Technology Program, National Institute of Education

Dr. Jeff Schiller, Officer for Planning and Evaluation, National Institute of Education

Dr. Derek Nunney, Vice President for Academic Affairs, Oakland Community College

Participants in the seminar on Open Learning and the World of Work

Dr. Douglas Bray, Director of Management Selection and Development Research, AT & T

Mr. Lloyd H. Davis, Executive Director, National Advisory Council on Extension and continuing Education

Mr. James M. Dyer, Program Officer, Carnegie Corporation of New York

Mr. William J. Elliott, Manager, Education Relations, Public Affairs Division, American Cyanamid Company

Mr. Reese Hammond, Director of Research and Evaluation, International Union of Operation Engineers

Dr. Herbert Levine, Director, Labor Education Center, Institute of Management and Labor Relations, Rutgers University

Dr. Jerome Lord, Program Officer, Program for Technological Application, National Institute of Education

Mr. Joseph McDermott, Trade Union Programs, College of New Rochelle

Dr. Victor P. Meskill, Vice President for Administration, DW. Post Center, Long Island University

Dr. Adolph Panitz, Retired Director, National Occupational Competency Testing Institute, ETS

Dr. John J. Sullivan, Director, Project in Non-collegiate Sponsored Instruction, Office of Educational Credit, ACE

Participants in the seminar on Competence- and Performance-based

Assessment and Credentialing of Learning Outcomes

Dr. Ray Lewis, Program Manager, Fund for the Improvement of Postsecondary Education

Dr. Larry Daloz, Director of Learning Services, Community College of Vermont

Dr. Lawrence Grayson, Productivity and Technology, National Institute of Education

Dr. John Harris, Office of Administrative Affairs, State University of Florida

Dr. Henry Spille, Director, MOS Project, Office of Educational Credit, ACE

Dr. John Summerskill, Vice President, Educational Testing Service

Dr. Warren Willingham, Director, Cooperative Assessment of Experiential Learning Project

Dr. John McGarraghy, Director, Office of Non-collegiate Sponsored Instruction, New York State Department of Education

Participants in the seminar on Strategies for Fostering Open Learning

Dr. Robert A. Altman, Program Director, Graduate Record Examination Program, ETS

Dr. Samuel Baskin, President, Union for Experimenting Colleges and Universities

Dr. Samuel Gould, Independent Consultant and Chairman, Council for the Progress of Non-traditional Study

Dr. Harold L. Hodgkinson, Project Director, Center for Research and Development in Higher Education

Dr. Richard Johnson, Program Manager, Exxon Education Foundation

Dr. Jerome Lord, Program Officer, Program for Technological Applications, National Institute of Education

Mr. Jack McBride, Executive Vice President, University of Nebraska

Ms. Gail Spangenberg, Assistant Program Officer, Ford Foundation

Dr. Francis Wuest, Director, Project on Change in Liberal Education